

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION.
 PHYSICAL ROAD NUMBER (PR#) & MILEPOST (MP) DATA ARE FROM MICHIGAN GEOGRAPHIC FRAMEWORK VERSION # 16.

MICHIGAN DEPARTMENT OF TRANSPORTATION

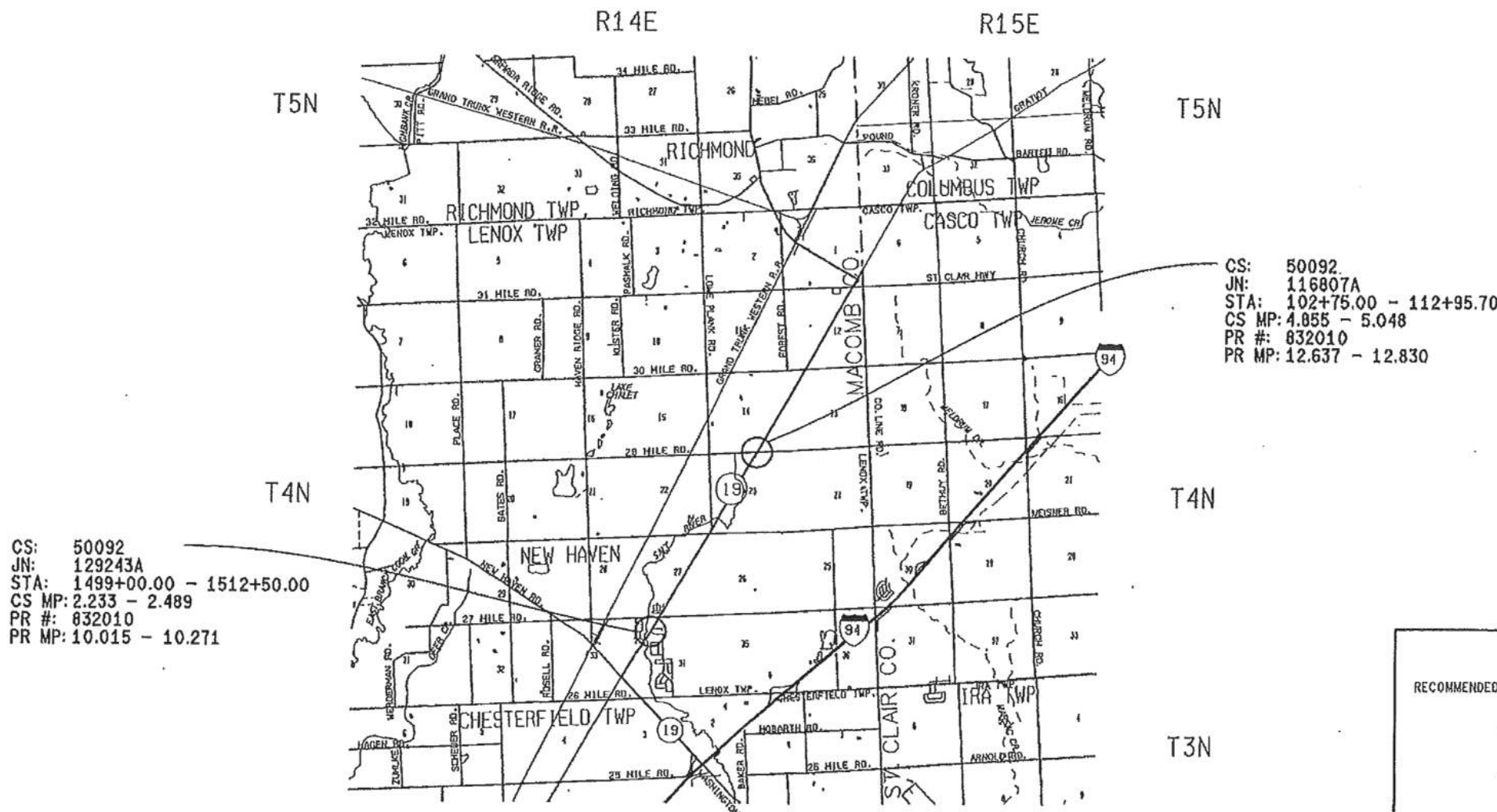
M-19 VILLAGE OF NEW HAVEN LENOX TOWNSHIP MACOMB COUNTY



COUNTY KEY

ROAD	YEAR	TRAFFIC DATA			SPEED DATA		LIMITS
		ADT	DHV	COMM	DESIGN	POSTED	
M-19	2016	12,400	12%	4%	60	55	RIVERBROOK BLVD - NORTH OF 29 MILE RD
	2037	13,775	12%	4%	60	**	
M-19	2016	16,100	12%	3%	55	50	SOUTH OF ARLINGTON RD - RIVERBROOK BLVD
	2037	17,900	12%	3%	55		

SECTION	CONTROL SEC	JOB NO.	FEDERAL PROJECT	FEDERAL ITEM
1	HSIP 50092	116807A	HSIP 1750(021)	KK4315
1	CM 50092	129243A	CM 1750(024)	HK1535



APPROVALS

RECOMMENDED FOR APPROVAL BY:

Ishrat Jahan 4/12/17
ISHRAT JAHAN, P.E. - PROJECT MANAGER DATE

Brian Travis 4/12/17
BRIAN TRAVIS, P.E. - CONSTRUCTION ENGINEER DATE

MICHIGAN DEPARTMENT OF TRANSPORTATION
KIRK T. STEUDLE, P.E. - DIRECTOR

APPROVED BY: *[Signature]* 4-20-17
BRADLEY C. WIEFERICH, P.E. - ENGINEER OF DEVELOPMENT DATE

MILES: 0.43
 CONTRACT FOR:
 CONSTRUCTION OF PASSING FLARE AT THE INTERSECTION OF M-19 AND 29 MILE ROAD AND EXTENDING CENTER LEFT TURN LANE ON M-19 SOUTH OF 27 MILE ROAD TO ARLINGTON DRIVE

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)						NO SCALE	DATE: 04/19/17	CS: 50092	TITLE SHEET	DRAWING SHEET
NO.	DATE	AUTH.	DESCRIPTION	NO.	DATE					

MDOT
 Michigan Department of Transportation

FILE: 116807_129243_TITLE.dgn TSC: MACOMB

JN: 116807A, 129243A

M-19 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.

Name Of Owner	Type Of Utility
AT&T Co Attn: Tamera Hardin, Legal Mandates 54 N. Mill St Pontiac, MI 48342 248-454-2995 g25564@att.com and th1978@att.com	Telephone
AT&T Attn: Christy Chojnacki, Design Engineer 100 S. Main Mt Clemens, MI 48043 586 466-6301 (m) 586-322-8179 Cs3921@att.com	Telephone
Comcast Co Attn: Wadia El-Hossari 6095 Wall St Sterling Heights, MI 48312 586-883-7253 (m)810-588-7534 E-mail: wadia_el-hossari@cable.comcast.com	CATV
DTE Energy Co Attn: Zachary Jones One Energy Plaza, 330SB Detroit, MI 48226 Phone: 313-235-0281 DTE_Electric_MDOT_Requests@dteenergy.com	Electric
DTE Energy Co Attn: Marty Gallina 15600 19 Mile Rd Clinton Twp, MI 48038 586-412-4756 (m) 810-459-0283 martin.gallina@dteenergy.com	Electric
DTE Gas Co (old MichCon Co) Attn: Laura Forrester 17150 Allen Rd Melvindale, MI 48122 313-389-7261 forresterl@dteenergy.com	Gas
Everstream (MISD) Attn: Mike Ohannesian 1781 Holloway Drive Holt, MI 48842 517-742-4116 (m) 517-614-6864 mohannesian@everstream.net	Telecom
Frontier Communications (Verizon) Attn: Thomas Anderson, Engineering Dept 311 Cedar St Imlay City, MI 48444 810-724-3116 (m)810-516-0200 FAX: 810-724-1980 E-mail: tom.e.anderson@ftr.com	Telecom
Great Lakes Water Authority (GLWA) Attn: Dale Echols, ET CADD ACET 6425 Huber St, 1 st Floor, GLWA Field Engrng Detroit, MI 48211 313-267-4857 FAX: 313-842-6480 Dale.echols@glwater.org	Water

ITC Holdings Corp Attn: Erin Keeler 27175 Energy Way Novi, MI 48377 248-946-3298 E-mail: ekeeler@itctransco.com	Electric Transmission
Lenox Township Attn: Cam Trombly, DPW Superintendent 63775 Gratiot Ave Lenox, MI 48050 586-749-0230 (m) 586-615-0741 ctrombly@lenoxtp.org	Water, sewer
Macomb County Drain Commission Drains Attn: Curt Powers, Design & Construction 21777 Dunham Rd Clinton Twp, MI 48036 586-469-5457 curtis.powers@macombgov.org	County
MichCon Gas Co (DTE) Attn: Greg Blosser Transmission Engineering 1 Energy Plaza Detroit, MI 48226 313-235-1080 Email: blosserg@dteenergy.com	Gas
Village of New Haven Attn: Marcuz Dilbert, DPW 58380 Victoria ST New Haven, MI 48048 586-531-5841 vnhdpw@gmail.com	Water, Sewer
SEMCO Energy Attn: Connor Stevenson 56462 Precision Dr Chesterfield Twp, MI 48051 586-749-7342 (m) 810-531-9333 Connor.stevenson@semcoenergy.com	Gas

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.
ROAD	
DRAINAGE STRUCTURES	R-1-G *
BUMPER & PARKING RAILS AND MISC. WOOD POSTS	R-74-D
GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS	R-80-E
BEDDING AND FILLING AROUND PIPE CULVERTS	R-82-D
UTILITY TRENCHES	R-83-C *
PRECAST CONCRETE END SECTION FOR PIPE CULVERT	R-86-E
STEEL END SECTION	R-88-D
CULVERT SLOPED END SECTION	R-95-F
SOIL EROSION & SEDIMENTATION CONTROL MEASURES	R-96-E
SEEDING AND TREE PLANTING	R-100-H
GRADING CROSS-SECTIONS	R-105-D
PAVEMENT MARKINGS	
PAVEMENT ARROW AND MESSAGE DETAILS	PAVE-900-E
LONGITUDINAL LINE TYPES AND PLACEMENT	PAVE-905-C
PAVEMENT MARKINGS FOR INTERSECTIONS	PAVE-930-C
INTERSECTION, STOP BAR AND CROSSWALK MARKINGS	PAVE-945-C
SIGNING	
STANDARD SIGN INSTALLATIONS	SIGN-100-F
STANDARD ROUTE MARKER INSTALLATIONS	SIGN-110-E *
SIGN LOCATION CODES PLACEMENT	SIGN-115-C
ROADSIDE SIGN LOCATIONS & SUPPORT SPACING	SIGN-120-D
SIGN SUPPORT SELECTION CHARTS	SIGN-150-D
STEEL POSTS	SIGN-200-D
WORK ZONE DEVICES	
GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS	WZD-100-A *
TEMPORARY TRAFFIC CONTROL DEVICES	WZD-125-E *

* Denotes Special Detail


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FUNDING CATEGORIES

JN 116807 M-19 and 29 Mile Road Passing Flare
Category 0001 = Fed / State

JN 129243 M-19 and Arlington Drive Extend Center Turn Lane
Category 0001 = Fed / State

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FILE: 116807_129243_Proj_Info.doc										DESIGN UNIT: JAHAN	JN: 116807A, 129243A	PROJ 001	SECT 1	2	

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-L PARCEL - LEGAL
- PARCEL-NL PARCEL - NON-LEGAL
- PLAT-L PLAT - LEGAL
- PLAT-NL PLAT - NON-LEGAL
- ROW - FREE ACCESS
- ROW - LIMITED ACCESS
- SEC - SECTION LINE
- SEC 1/4 - SECTION LINE - QUARTER
- SEC 1/8 - SECTION LINE - EIGHTH
- SEC 1/16 - 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
- 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

- ABANDON
- BULKHEAD
- CLEARING
- REMOVE
- SALVAGE
- SAVE

CONSTRUCTION

- ADJUST
- ADJUST - STRUC COVER WITH TYPE
- ADJUST - BY OTHERS

REMOVAL AND CONSTRUCTION

- RELOCATE - WITH CASE NUMBER
- RELOCATE - BY OTHERS

CONSTRUCTION LIMITS

- SLOPE STAKE LINE

BORINGS

- BORING

STRUCTURES

- BEAM UNDERCLEARANCE
- REFERENCE POINT
- 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
- 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
- MICRO COLD MILLING, HMA
- HMA SURFACE REMOVAL AND / OR PAVEMENT REMOVAL

PROPOSED

- AGGREGATE APPROACH
- BRIDGE APPROACH
- 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

CURB & GUTTER

- CURB & GUTTER REMOVAL

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LEGEND SHEET

DRAWING SHEET

M-19 LEGEND 001

SECT 1 3

UTILITIES

COMBINED SEWER

- COMBINED SEWER
- //→→//→→→→ COMBINED SEWER - OUT OF SERVICE
- COMBINED SEWER - TO BE TAKEN OUT OF SERVICE
- ×→→×→→→→ COMBINED SEWER - TO BE REMOVED

COMMUNICATION

- FO—— FIBER OPTIC
- //——FO——// FIBER OPTIC - OUT OF SERVICE
- FO-OH—— FIBER OPTIC - OVERHEAD
- ⊠ FIBER OPTIC MARKER
- C—— CABLE
- //——C——// CABLE - OUT OF SERVICE
- C-OH—— CABLE - OVERHEAD
- ⊠ CABLE MARKER
- ◇ CABLE PEDESTAL
- T—— TELEPHONE
- //——T——// TELEPHONE - OUT OF SERVICE
- T-OH—— TELEPHONE - OVERHEAD
- ⊠ TELEPHONE BOX
- ⊙ TELEPHONE MANHOLE
- ◇ TELEPHONE PEDESTAL

FUEL / PETROLEUM

- ⊖ GASOLINE FILLER PIPE
- ⊠ GASOLINE PUMP
- ⊠ GASOLINE UNDERGROUND TANK
- PETRO—— PETROLEUM PIPELINE
- //——PETRO——// PETROLEUM PIPELINE - OUT OF SERVICE
- ⊠ PETROLEUM PIPELINE MARKER
- ⊙ PETROLEUM WELL
- ⊙ PROPANE TANK

NATURAL GAS

- G—— GAS LINE
- //——G——// GAS LINE - OUT OF SERVICE
- ⊠ MARKER
- ⊠ VALVE
- ⊠ WELL

SANITARY SEWER

- ⊙ MANHOLE WITH COVER (DIA VARIES)
- S—— SEWER
- //S——// SEWER - OUT OF SERVICE
- S——●S—— SEWER - TO BE TAKEN OUT OF SERVICE
- XS——XS—— SEWER - TO BE REMOVED

WATER

- ⊠ FIRE HYDRANT
- ⊠ GATE VALVE AND BOX
- ⊙ GATE VALVE IN WELL
- ⊠ IRRIGATION CONTROL VALVE
- ⊠ IRRIGATION SPRINKLER HEAD
- ⊠ SERVICE METER
- ⊖ SERVICE SHUTOFF
- ⊙ WATER WELL
- I—— IRRIGATION
- W—— WATER MAIN
- //——W——// WATER MAIN - OUT OF SERVICE
- W——●W—— WATER MAIN - TO BE TAKEN OUT OF SERVICE
- XW——XW—— WATER MAIN - TO BE REMOVED

STEAM

- STEAM—— STEAM
- //——STEAM——// STEAM - OUT OF SERVICE

GENERIC EXISTING UTILITIES

- ⊙ □ CATCH BASIN COVER
- MANHOLE COVER
- ⊠ MARKER
- ◇ PEDESTAL
- ⊙ SEWER CLEANOUT ACCESS
- STRUCTURE BOTTOM (DIA VARIES)
- ⊠ UTILITY BOX
- U—— UTILITY

DRAINAGE

- ⊠ ⊙ ⊙ CATCH BASIN W/ COVER (DIA VARIES)
- 12 DRAINAGE STRUCTURE NUMBER
- DRAIN CASTING
- DROP INLET
- ▷ ▷ ▷ ▷ END SECTION (SIZE VARIES)
- FLOW DIRECTION ARROW
- ⊠ HEADWALL (SIZE VARIES)
- ⊙ MANHOLE W/ COVER (DIA VARIES)
- ⊠ MANHOLE BASE W/ COVER (SIZE VARIES)
- ⊠ MANHOLE TEE W/ COVER (SIZE VARIES)
- ⊠ OUTLET HEADWALL (SIZE VARIES)
- CULVERT - EXISTING
- CULVERT (SIZE VARIES)
- DITCH CENTERLINE
- ▷ ▷ ▷ ▷ STORM SEWER - EXISTING
- → → → STORM SEWER
- × → × → × → × STORM SEWER - TO BE REMOVED
- → → → UNDERDRAIN
- WATER EDGE

NOTE:

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LEGEND SHEET

DRAWING	SHEET
M-19 LEGEND 002	1 4

ELECTRICAL

- CONTROLLER CABINET - PAD MOUNTED
- HANDHOLE
- MANHOLE
- POLE UTILITY - EXISTING
- POLE UTILITY
- TRANSFORMER - PAD MOUNTED
- TRANSFORMER - POLE MOUNTED
- E — CABLE
- X — E — X — CABLE - TO BE REMOVED
- E-OH — CABLE OVERHEAD
- X — E-OH — X — CABLE OVERHEAD - TO BE REMOVED
- I — E — I — CABLE IN CONDUIT
- X — I — E — I — X — 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
- 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
- TOWER LIGHTING UNIT - EXISTING
- TOWER LIGHTING UNIT

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

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LEGEND SHEET		DRAWING	SHEET
		M-19 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 for single address or rte.missdig.org, a minimum of 3 business days prior to excavating, excluding weekends and holidays.

MDOT ITS system includes traffic cameras, changeable message signs, detection equipment, fiber optic cable, other sensors and related communication cables and equipment in, over, or along the roadway.

ITS staking requests per the Special Provision for Protect ITS Infrastructure should be Emailed on MDOT Form 5300 (<http://mdotcf.state.mi.us/public/webforms/public/5300.pdf>) to: MDOT-ITS-Staking-Metro@michigan.gov

MDOT ELECTRICAL SYSTEMS

Contractors shall contact the maintenance representative at the MDOT Region / TSC Office to have MDOT electrical systems staked.

OUT OF SERVICE UTILITIES

If plan information indicates an existing underground utility is or will be out of service within the limits of this contract, the Contractor is cautioned to treat such a line as if it were still in service and notify "Miss Dig" when working in the area of the out of service facility.

EXISTING WATER MAINS AND SEWERS

The Contractor shall be responsible for any damage to properly identified existing water mains and/or existing sewers during the construction of this project.

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.

LAWN SPRINKLER SYSTEMS AND LANDSCAPING

Owners of existing lawn sprinkler systems and/or landscaping shall be notified (in writing with a copy sent to the Engineer) by the Contractor two weeks in advance of any work to be done that will affect those systems and/or landscaping. If the property owner fails to relocate the lawn sprinkler system prior to the Contractor beginning work, and if the Contractor cuts the system during the construction, the Contractor shall cap the system pipe and witness the location of the cap with a wooden stake for the property owner's use. The Contractor shall place the salvaged sprinkler heads on the property owner's property. If the property owner fails to relocate the landscaping prior to the Contractor beginning work, the Contractor shall carefully salvage the landscaping items and stockpile them on the property owner's property for the property owner. Any other modification to the lawn sprinkler systems and/or landscaping is the responsibility of the owner and is not part of this contract. This work is included in other items of the project.

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.

OLD PLANS

OLD ROAD PLANS

The following old road plans were referred to in the design of this project.
CS 50092 JN 102713 _____

In addition, other old road plans that predate this project may be available. These plans may be reviewed in the Transportation Service Center (TSC) during normal working hours.

DETAILED GRADES

GRADES FOR INTERSECTIONS

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

UNSIGNALIZED SIDE ROAD TO TRUNK LINE INTERSECTIONS:

The normal edge of pavement grade of the proposed trunk line adjacent to the side road intersection shall be carried across the intersection. The side road approach grade and crown shall be established to provide for drainage.

EARTHWORK

EARTHWORK

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

SLOPES

Class A slopes shall be constructed on this project.

EARTH DISTURBANCE LIMITS

The earth disturbance limit for this project will be limited to 10' beyond the slope stake line or to the ROW line whichever is less for all areas except for wetland areas. For areas adjacent to wetlands, the earth disturbance limit will be limited to the slope stake line. Restoration measures have been included in this set of plans for the approved areas of disturbance. The Contractor shall submit an earth change plan for any work beyond the approved limits to the Engineer to review 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. Critical ditch grades shall be protected with either sod or seed/mulch or mulch blanket as directed by the Engineer.

BASES

AGGREGATE BASE

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

DRAINAGE

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.

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.

GUARDRAIL

GUARDRAIL CONNECTIONS TO EXISTING GUARDRAIL

Connections of proposed guardrail to existing guardrail shall be field drilled. Any additional cost for this work shall be included in the pay item of the proposed guardrail.

GUARDRAIL POST HOLES

Posts placed within 3' of existing culverts shall be in drilled holes and shall not be driven.

TURF ESTABLISHMENT

SEED MIXTURE

The symbol for the permanent turf seed mixture on this project is symbol **THV**.

REST AREA AND/OR LANDSCAPING

Existing vegetation shall not be damaged during construction operations, per the 2012 Standard Specifications for Construction.

Heavy equipment will not be allowed to work outside the slope stake lines in the wooded portion of the site. All equipment to be used must be approved by the engineer prior to beginning work.

Storage of equipment and materials will be restricted to areas designated by the Engineer. No equipment is permitted within the drip line of existing trees to remain.

Branches of all trees to be saved shall not be removed, or damaged by construction equipment. If removal of lower branches is necessary, contact Roadside Development or the Region Resource Specialist for proper methods.

Do not trench within the drip line of existing trees to remain unless specifically approved by the Engineer.

Contractor shall promptly restore any property damage at no expense to MDOT.

All raw fill or cut slopes will be covered with slope restoration according to the special provision and time limitations specified in section 816.03 of the 2012 Standard Specifications for Construction.

All excavated material will become the property of the contractor. Any excavated material not used on the project will be removed from the site and disposed of in accordance with section 205.03.P. of the 2012 Standard Specification for Construction and any applicable state and/or local ordinances.

No cereal rye seeding shall be used on this project.

Protect existing sidewalks from damage.

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.

At least two weeks prior to construction to remove / relocate Michigan Logo or tourist oriented directional signs; the Contractor shall contact Mike Kovalchick, (888) 645-6467 from Michigan Logos.

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.

GUARDRAIL REMOVAL

Guardrail, called for removal, shall be removed when all signs, supports and foundations behind the guardrail have been removed, unless otherwise approved by the Engineer.

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)									NO SCALE	DATE: 04/19/17	CS: 50092	NOTE SHEET	DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION			DESIGN UNIT: JAHAN	JN: 116807A, 129243A		NOTE 001	SECT 1
										FILE: 116807_129243_Note.doc	TSC: MACOMB			

MISCELLANEOUS QUANTITIES

The following items of work shall be done as they apply throughout the project. These items are not detailed or included on the plan and profile sheets

PROJECT WIDE

JN 116807 CAT 0001	JN 129243 CAT 0001	Unit	Pay Item
0.39	0.61	LSUM	Mobilization, Max
--	9	Ea	Culv, Rem, Less than 24 inch
25	75	Ft	Exploratory Investigation, Vertical
--	50	Cyd	Non Haz Contaminated Material Handling and Disposal, LM
450	--	Cyd	Phragmites Plant Material Handling and Disposal, LM
0.39	0.61	LSUM	Project Cleanup
0.39	0.61	LSUM	Pavt, Cleaning
2024	3312	Dlr	HMA Quality Initiative
3880	8100	Dlr	Longitudinal Joint Density Quality Initiative
--	1	Ea	Cluster Mailbox
--	1	Ea	Cluster Mailbox, Rem
0.39	0.61	LSUM	Contractor Staking, Road Only
3	5	Hr	Staking Plan Errors and Extras, One Person
1	2	Hr	Staking Plan Errors and Extras, Two Person
2	3	Hr	Staking Plan Errors and Extras, Three Person

SUBGRADE CORRECTIONS

JN 116807 CAT 0001	JN 129243 CAT 0001	Unit	Pay Item
425	890	Cyd	Subgrade Undercutting, Type II
425	1300	Syd	Geotextile, Stabilization

SOIL EROSION AND SEDIMENTATION CONTROL

The following items of work shall be done as directed by the Engineer. These items are in addition to the items shown on the plans.

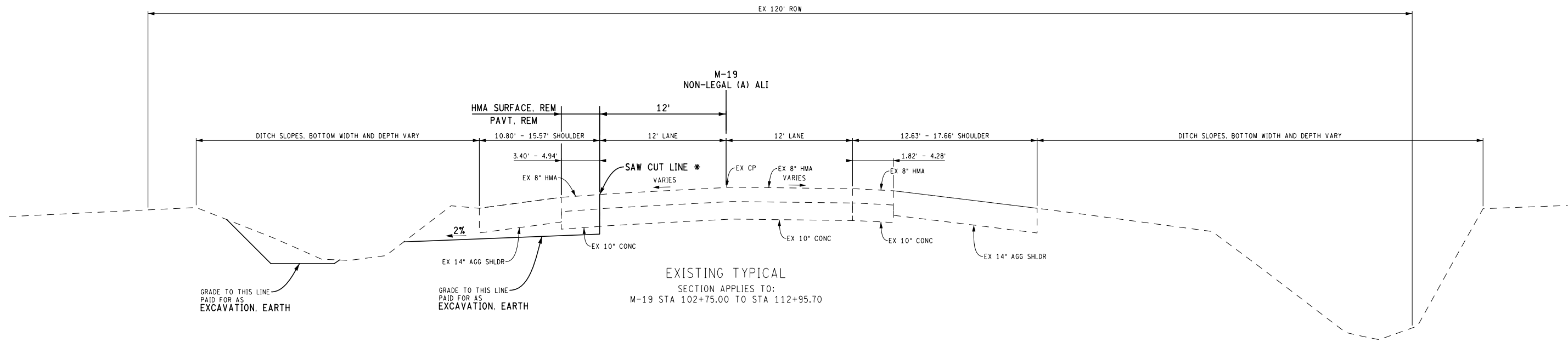
JN 116807 CAT 0001	JN 129243 CAT 0001	Unit	Pay Item
12	12	Ft	Erosion Control, Check Dam, Stone
1	1	Ea	Erosion Control, Gravel Access Approach
10	10	Cyd	Erosion Control, Maintenance, Sediment Removal
1	1	Ea	Erosion Control, Sediment Trap
150	150	Ft	Erosion Control, Silt Fence

MAINTAINING TRAFFIC

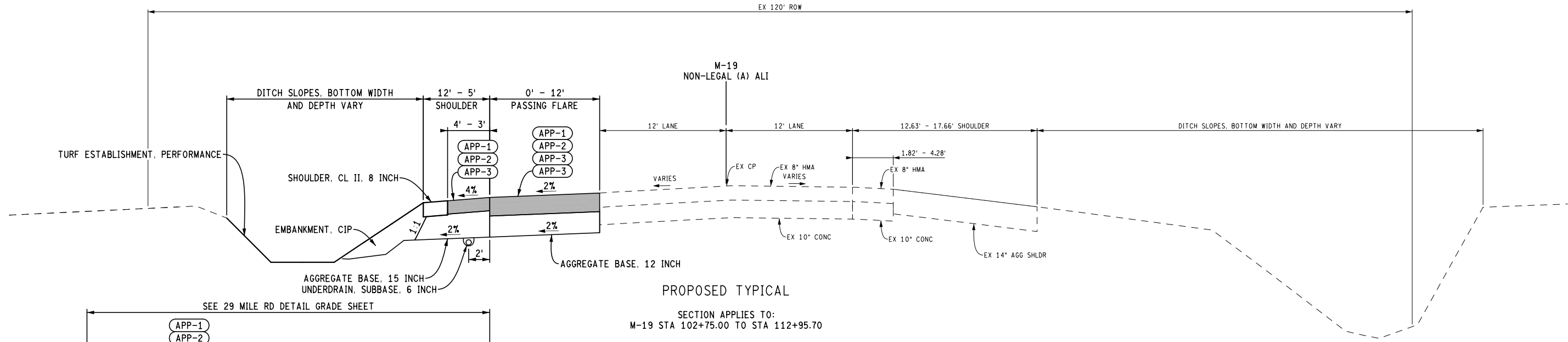
JN 116807 CAT 0001	JN 129243 CAT 0001	Unit	Pay Item
20	20	Cyd	Maintenance Gravel, LM
17	8	Ea	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn
17	8	Ea	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper
2	2	Ea	Lighted Arrow, Type C, Furn
2	2	Ea	Lighted Arrow, Type C, Oper
0.39	0.61	LSUM	Minor Traf Devices
1	1	Ea	Mobile Attenuator
3855	3945	Ft	Pavt Mrkg, Longit, 6 inch or Less Width, Rem
2370	2430	Ft	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, White, Temp
3720	3330	Ft	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp
170	190	Ea	Plastic Drum, High Intensity, Furn
170	190	Ea	Plastic Drum, High Intensity, Oper
8	8	Ea	Sign Cover
790	410	Sft	Sign, Type B, Temp, Prismatic, Furn
790	410	Sft	Sign, Type B, Temp, Prismatic, Oper
48	--	Sft	Sign, Type B, Temp, Prismatic, Special, Furn
48	--	Sft	Sign, Type B, Temp, Prismatic, Special, Oper
0.39	0.61	LSUM	Traf Regulator Control
2	2	Ea	Sign, Portable, Changeable Message, NTCIP-Compliant, Furn
2	2	Ea	Sign, Portable, Changeable Message, NTCIP-Compliant, Oper
--	13	Ea	Driveway Maintenance

PERMANENT PAVEMENT MARKINGS

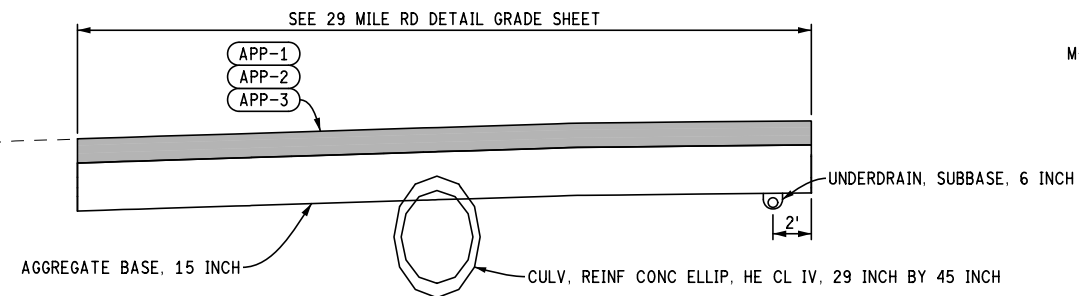
JN 116807 CAT 0001	JN 129243 CAT 0001	Unit	Pay Item
100	100	Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow
350	350	Ft	Pavt Mrkg, Sprayable Thermopl, 6 inch, White



EXISTING TYPICAL
SECTION APPLIES TO:
M-19 STA 102+75.00 TO STA 112+95.70



PROPOSED TYPICAL
SECTION APPLIES TO:
M-19 STA 102+75.00 TO STA 112+95.70



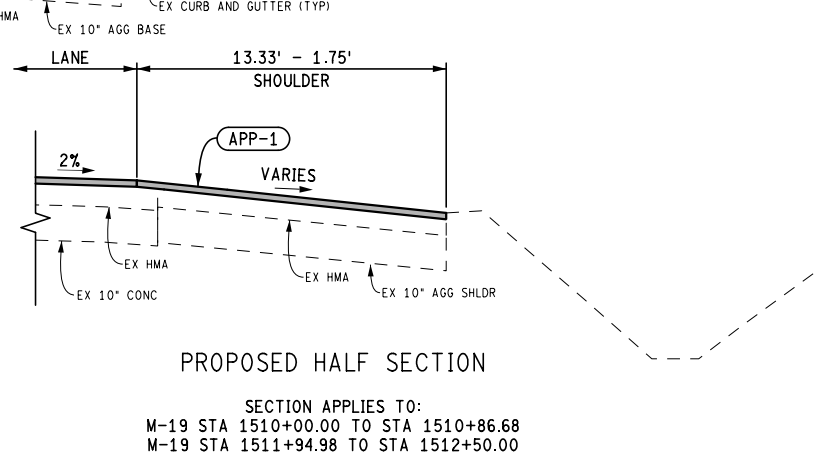
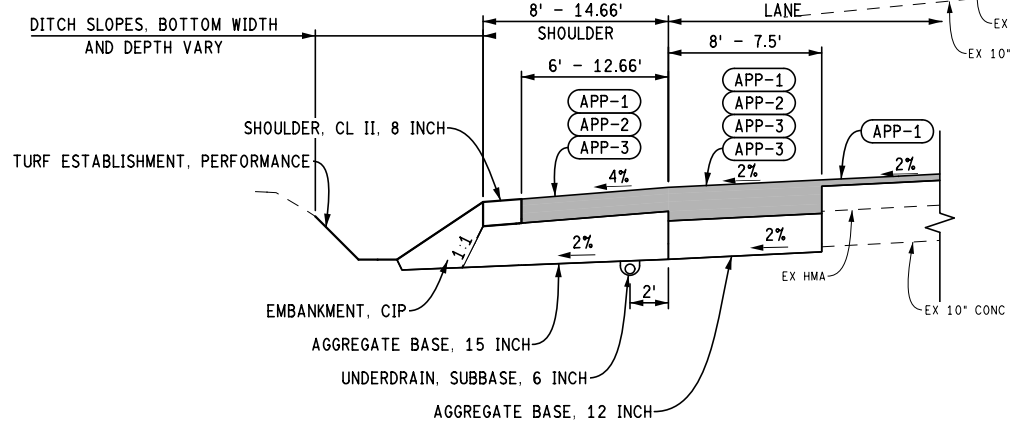
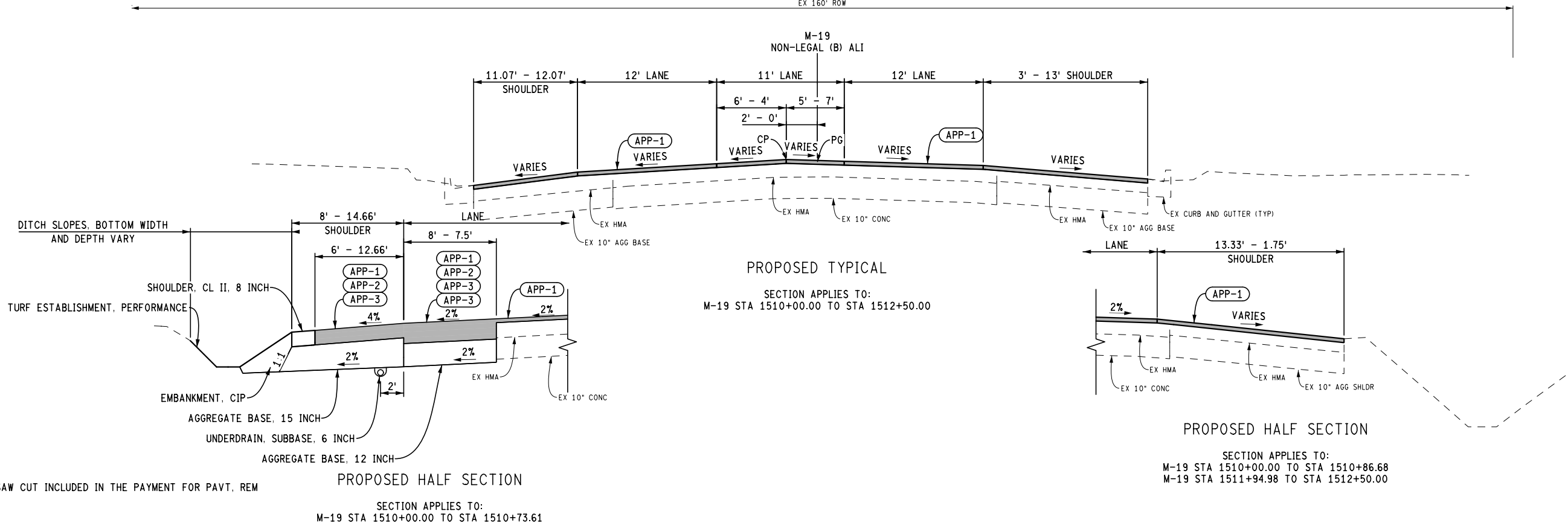
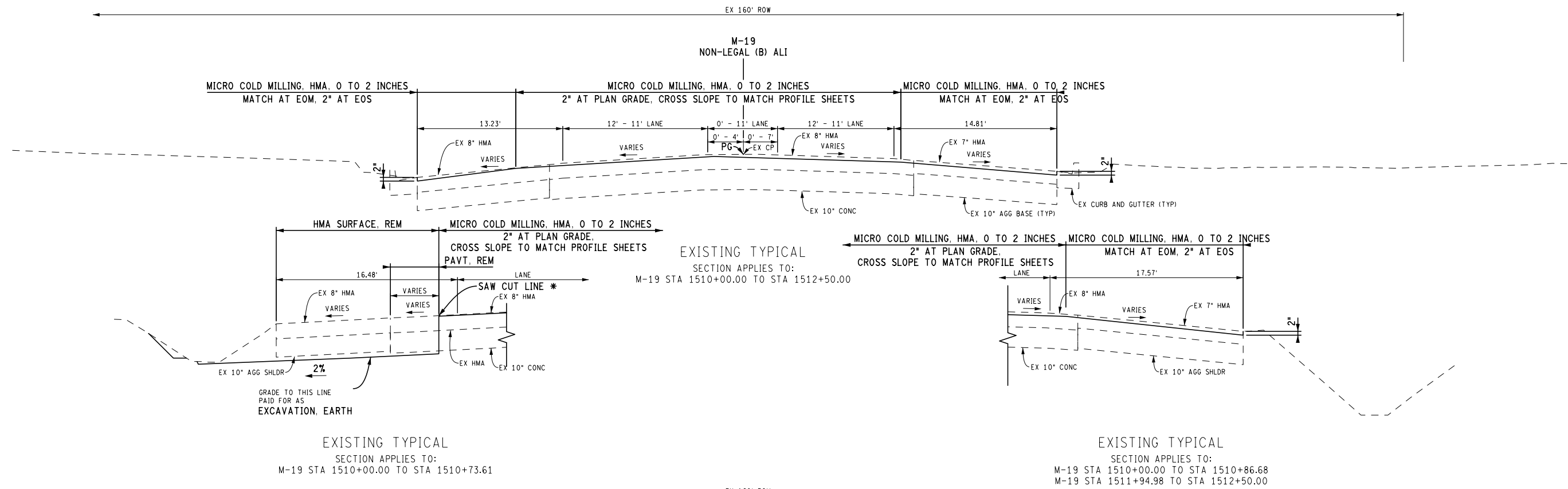
PROPOSED HALF SECTION
SECTION APPLIES TO:
M-19 STA 107+13.35 TO STA 108+19.30

* SAW CUT INCLUDED IN THE PAYMENT FOR PAVT, REM

HMA APPLICATION ESTIMATE

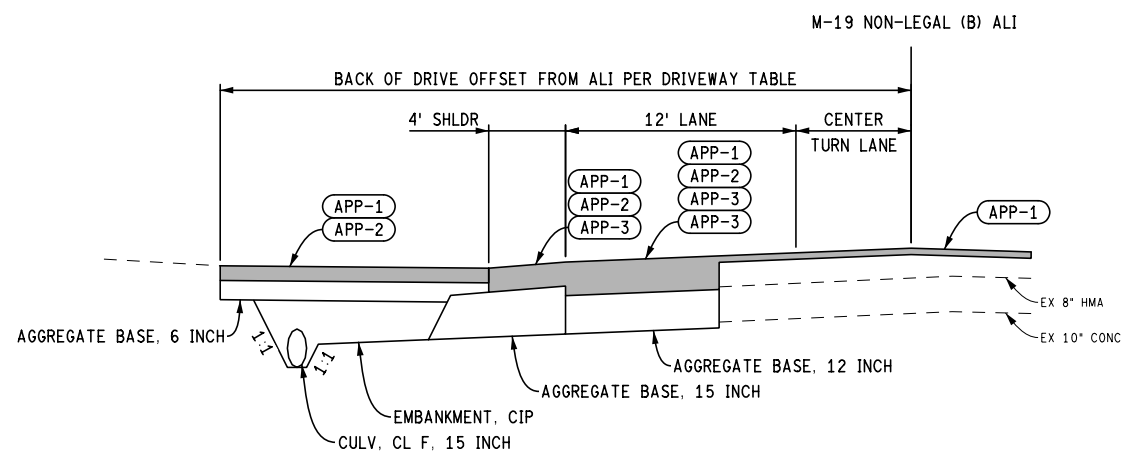
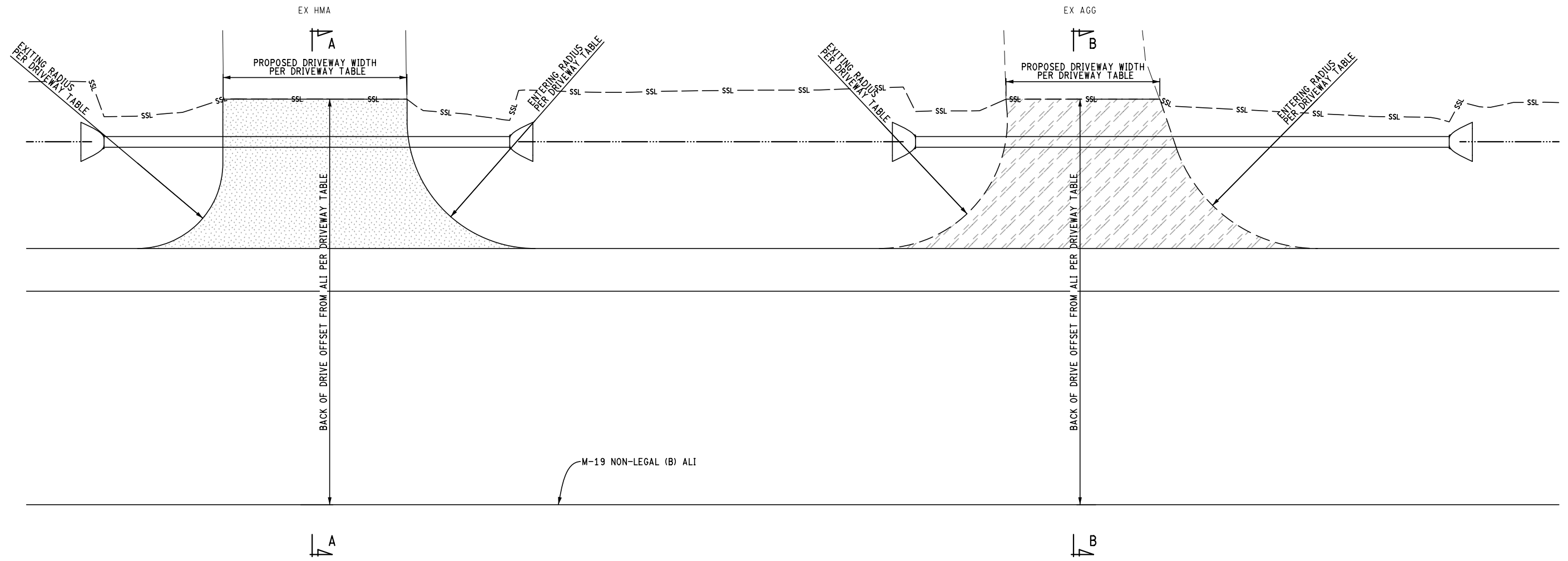
IDENT NO.	ITEM	RATE LBS PER SYD	PERFORMANCE GRADE	REMARKS
APP-1	HMA APPROACH	220	64-22	HMA, 5E3 (TOP COURSE, MAINLINE, SHOULDER, 29 MILE RD, DRIVES AWI = 260)
APP-2	HMA APPROACH	275	64-22	HMA, 4E3 (LEVELING COURSE, MAINLINE, SHOULDER, 29 MILE RD, DRIVES)
APP-3	HMA APPROACH	330	58-22	HMA, 3E3 (BASE COURSE, MAINLINE, SHOULDER, 29 MILE RD)
	* BOND COAT	0.05-0.15 GAL		

*FOR INFORMATION ONLY

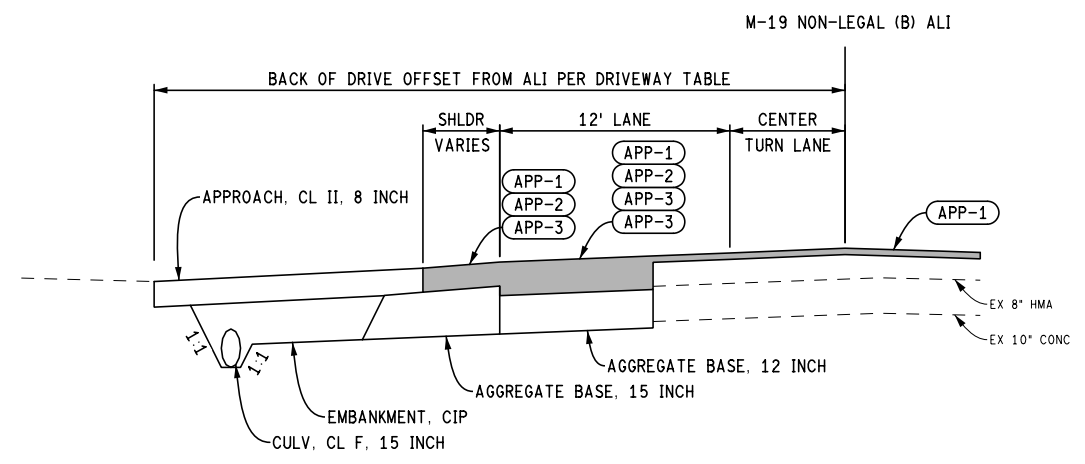


* SAW CUT INCLUDED IN THE PAYMENT FOR PAVT, REM

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)								MDOT Michigan Department of Transportation		DATE: 04/19/17		CS: 50092		TYPICAL SHEET		DRAWING		SHEET	
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	0 VERT. (FT)		DESIGN UNIT: JAHAN		JN: 129243A		M-19 AT ARLINGTON DRIVE		M-19		SECT 1	
								0 10 HORZ. (FT)		TSC: MACOMB						003		10	

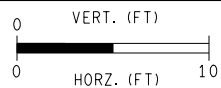


SECTION A-A



SECTION B-B

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



FILE: 129243_Driveway.dgn

DATE: 04/19/17
 DESIGN UNIT: JAHAN
 TSC: MACOMB

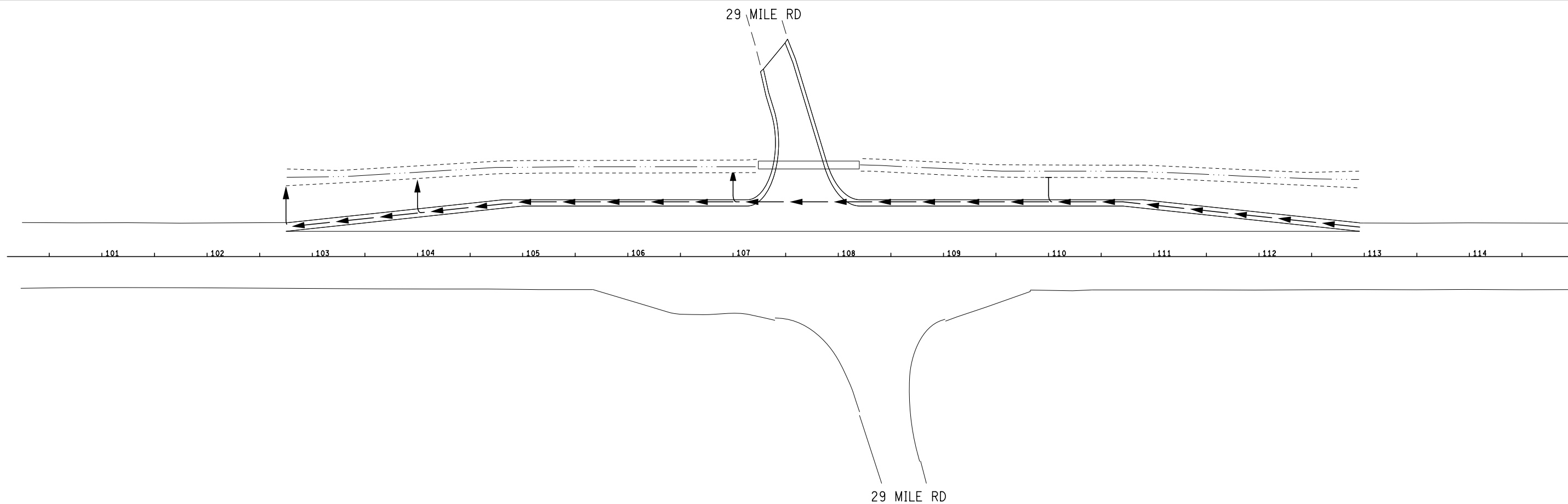
CS: 50092
 JN: 129243A

MISCELLANEOUS DETAIL SHEET
 DRIVEWAY

DRAWING	SHEET
M-19 MISC 001	SECT 1 11

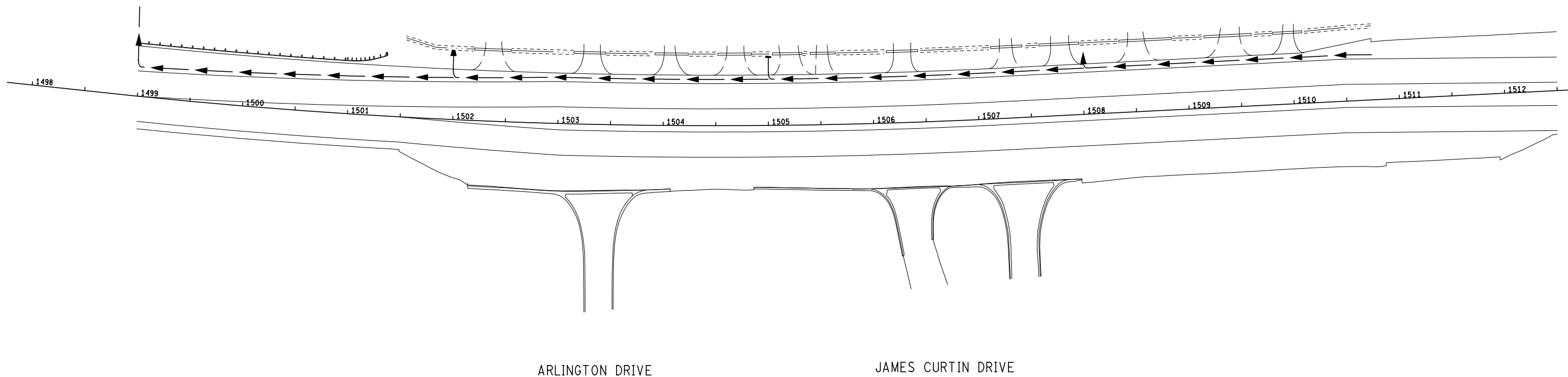
M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)



M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)



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



NO SCALE

DATE: 04/19/17	CS: 50092	MISCELLANEOUS DETAIL SHEET	DRAWING	SHEET
DESIGN UNIT: JAHAN	JN: 116807A, 129243A	UNDERDRAIN LAYOUT	M-19 MISC 002	SECT 1
FILE: 116807_129243_Underdrain.dgn	TSC: MACOMB			12

NOTES

COMPANY: MUXLOW SURVEYING
DATE: 05/26/15
HORIZONTAL DATUM: NAD 83 (CORS NA2011)
VERTICAL DATUM: NAVD 88
GEOID: GEOID12
COORDINATE SYSTEM: STATE PLANE GRID
ZONE: MICHIGAN SOUTH 2113

GROUND DISTANCE CONVERSION:

GROUND DISTANCE = GRID DISTANCE / ACSF

COMBINED SCALE FACTOR: THE COMBINED SCALE FACTOR (CSF) FOR EACH CONTROL POINT IS SHOWN ON THIS SHEET.

AVERAGE COMBINED SCALE FACTOR (ACSF) = (CSF1 + CSF2)/2

HORIZONTAL CONTROL POINTS HELD FIXED IN ADJUSTMENTS: NEW HAVEN CORS & MARINE CITY CORS

VERTICAL CONTROL POINTS HELD FIXED IN ADJUSTMENTS:

NGS MONUMENT PID DI6108

ELLIPSOID: GRS 80

UNITS: INTERNATIONAL FEET

0.999883445586

All Station and offsets are from legal alignment

PLAN ELEVATION

ELEVATIONS SHOWN ON THESE PLANS ARE FROM GROUND SURVEY, BY MUXLOW SURVEYING. DATED 5/29/15.

PRIMARY CONTROL

NO PRIMARY CONTROL WAS SET

INTERMEDIATE CONTROL

CP1 – SET 5/8 IN X 3 FT IRON WITH WHITE CONTROL POINT CAP 55'+/- SOUTH OF THE CENTERLINE OF 29 MILE RD AND 170'+/- EAST OF THE CENTERLINE OF M-19.

STATE PLANE COORDINATES: N 464948.536, E 13554805.449, Z 650.780

Sta=643+00.80,Off=149.87

COMBINED SCALE FACTOR: 0.999910712691

1. S70°E 38.43 FT MAG NAIL SOUTHWEST FACE OF 12" POPLAR
2. S70°W 17.34 FT MAG NAIL NORTH FACE OF 12" POPLAR
3. N40°W 96.92 FT LAG SCREW IN SOUTH FACE POWER POLE
4. NORTH 38.57 FT MAG NAIL IN CONCRETE PAVEMENT

CP2 – SET 5/8 IN X 3 FT IRON WITH WHITE CONTROL POINT CAP 42'+/- SOUTH OF THE CENTERLINE OF 29 MILE RD AND 58'+/- EAST OF THE CENTERLINE OF M-19.

STATE PLANE COORDINATES: N 464956.996, E 13554693.771, Z 652.248

Sta=642+51.81,Off=48.74

COMBINED SCALE FACTOR : 0.999910542863

1. S30°E 28.53 FT SPIKE/TAG IN SOUTHWEST FACE GUIDE POLE
2. N10°E 24.33 FT SOUTHWEST CORNER OF CATCH BASIN
3. SOUTH 12.64 FT CENTERLINE OF MANHOLE
4. S80°E 96.89 FT MAG NAIL IN NORTH FACE OF 12" POPLAR

CP3 – SET 5/8 IN X 3 FT IRON WITH WHITE CONTROL POINT CAP 24'+/- NORTH OF THE CENTERLINE OF 29 MILE RD AND 65'+/- WEST OF THE CENTERLINE OF M-19.

STATE PLANE COORDINATES: N 465017.837, E 13554604.318, Z 651.976,

Sta=642+60.56,Off=-59.09

COMBINED SCALE FACTOR: 0.999913262651

1. N45°E 7.15 FT BENCH TIE IN SOUTH FACE OF CUT OFF POLE
2. S85°W 16.27 FT CENTERLINE OF MANHOLE
3. S10°W 65.11 FT MAG NAIL IN EAST FACE OF 6" ELM
4. N30°E 7.42 FT MAG NAIL IN WEST FACE OF POWER POLE

CP4 – SET 5/8 IN X 3 FT IRON WITH WHITE CONTROL POINT CAP 32'+/- EAST OF THE CENTERLINE OF M-19 AND 710' NORTHEASTERLY FROM THE INTERSECTION OF M-19 AND 29 MILE RD.

STATE PLANE COORDINATES: N 465610.371, E 13555039.356, Z 653.92127.35

Sta=649+90.59,Off=27.35

COMBINED SCALE FACTOR: 0.999936413189

1. S80°E 25.08 FT CENTERLINE OF MANHOLE
2. S10°E 148.81 FT CENTERLINE OF HYDRANT
3. NORTH 48.66 FT NO PARKING SIGN
4. EAST 37.27 FT LAG SCREW TOP OF 8" STUMP

CP5 – SET 5/8 IN X 3 FT IRON WITH WHITE CONTROL POINT CAP 41'+/- EAST OF THE CENTERLINE OF M-19 AND 495'+/- SOUTHEASTERLY FROM THE INTERSECTION OF M-19 AND 29 MILE RD.

STATE PLANE COORDINATES: N 464564.501, E 13554456.021, Z 650.463

Sta=637+93.11,Off=35.75

COMBINED SCALE FACTOR: 0.999941166216

1. EAST 19.54 FT MAG NAIL IN SOUTH END OF 48" CMP
2. N30°E 98.13 FT CENTERLINE OF HYDRANT
3. N45°E 46.76 FT CENTERLINE OF MANHOLE
4. NORTH 54.72 FT NO PARKING SIGN

BENCHMARKS

BM #10 – LAG SCREEN IN SOUTH FACE POWER POLE IN THE NORTHEAST QUADRANT OF THE INTERSECTION OF M-19 AND 29 MILE RD.

STATE PLANE COORDINATES : N 465030.255, E 13554753.456, Z 653.023

Sta= 643+44.90 Off=64.22

1. S80°W 14.05 FT NORTHEAST CORNER CATCH BASIN
2. S30°W 68.42 FT SPIKE/TAG IN POWER POLE
3. N10°W 47.94 FT CENTERLINE OF HYDRANT
4. EAST 7.00 FT NORTH LEG OF STOP SIGN

BM #11 – BM TIE IN SOUTH FACE CUT OFF POLE

STATE PLANE COORDINATES : N 465022.238, E 13554610.405, Z 651.775

Sta = 642+67.39 Off=-55.97

1. S20°W 71.81 FT MAG NAIL IN EAST FACE OF 6" ASH
2. S45°W 7.15 FT CONTROL POINT #3
3. S80°W 23.10 FT CENTERLINE OF MANHOLE
4. N40°W 1.96 FT EAST FACE OF POWER POLE

BM #12 – ON HYDRANT

STATE PLANE COORDINATES : N 464645.832, E 13554510.636, Z 648.612

Sta =638+90.80 Off=43.09

1. N30°E ABS WATER SHUT OFF
2. WEST 48.83 FT
3. S30°E 54.34 FT CENTERLINE OF MANHOLE
4. S30°W 98.13 FT CP #5

ALIGNMENT(S) POINTS

LEGAL ALIGNMENT POINTS:

30,464181.583,13554197.543,649.354,ALI--MUT CAP
 31,465005.113,13554665.039,652.354,ALI--MUT CAP
 32,465036.993,13554683.479,652.686,ALI--CENTER BOX
 33,467786.658,13556239.402,658.734,ALI--DISC

SECTION CORNERS

NW CORNER SECTION 23, T4N-R14E, LENOX TOWNSHIP, MACOMB COUNTY, MICHIGAN
 NE CORNER SECTION 22, T4N-R14E, LENOX TOWNSHIP, MACOMB COUNTY, MICHIGAN
 COMMON WITH T4N-R14E CORNERS
 PT 22, N 464886.293, E 13551464.151
 FOUND MONUMENT BOX WITH 3/4" X 2 FT IRON
 N45°E 70.45 FT NAIL IN NW FACE OF UTILITY POLE
 S20°W 82.20 FT NAIL IN EAST FACE OF 14" ELM
 S45°E 45.88 FT MAG NAIL IN SW FACE OF POWER POLE
 N60°E 40.76 FT LAG BOLT IN SOUTH FACE POWER POLE

NE CORNER SECTION 23, T4N-R14E, LENOX TOWNSHIP, MACOMB COUNTY, MICHIGAN
 SW CORNER SECTION 24, T4N-R14E, LENOX TOWNSHIP, MACOMB COUNTY, MICHIGAN
 COMMON WITH T4N-R14E CORNERS
 PT 20, N 465101.525, E 13556861.607
 FOUND MONUMENT BOX WITH 3/4" X 2 FT IRON
 N20°E 46.89 FT NAIL/TAG IN EAST FACE 14" TREE
 N10°E 19.96 FT NAIL/TAG ON TOP OF GUARD RAIL
 S15°E 20.67 FT NAIL/TAG ON TOP OF GUARD RAIL

CENTER SECTION 23, T4N-R14E, LENOX TOWNSHIP, MACOMB COUNTY, MICHIGAN
 PT 24, N 462289.085, E 13554289.953
 FOUND 4" X 3 FT CONCRETE MONUMENT
 N89°E 8.97 FT NAIL/TAG IN NW FACE OF 8" MAPLE
 S45°E 18.46 FT NAIL/TAG IN SW FACE OF 10" MAPLE
 S35°W 2.17 FT NAIL/TAG IN NW FACE OF 10" MAPLE
 N02°W 34.58 FT NAIL/TAG IN EAST FACE OF 12" MAPLE

NORTH 1/4 CORNER SECTION 23, T4N-R14E, LENOX TOWNSHIP, MACOMB COUNTY, MICHIGAN
 SOUTH 1/4 CORNER SECTION 14, T4N-R14E, LENOX TOWNSHIP, MACOMB COUNTY, MICHIGAN
 PT 21, N 464982.883, E 13554158.628
 FOUND 3/4" X 2 FT IRON
 S47°E 37.68 FT NAIL/TAG #37274 IN NE FACE OF 8" TREE
 S47°E 38.33 FT NAIL/TAG IN NE FACE OF 8" TREE
 SOUTH 23.33 FT IRON WITH CAP #23505
 N45°W 106.75 FT NAIL/TAG IN NE FACE OF UTILITY POLE

CENTER SECTION 14, T4N-R14E, LENOX TOWNSHIP, MACOMB COUNTY, MICHIGAN
 PT 23, N 467705.379, E 13554022.835
 FOUND 4" X 3 FT CONCRETE MONUMENT
 NORTH 31.12 FT NAIL/TAG IN EAST FACE 8" TREE
 N52°E 36.11 FT NAIL/TAG IN SE FACE OF 15" TREE
 EAST 19.96 FT FOUND 1/2" IRON
 S28°E 31.53 FT NAIL/TAG IN SW FACE OF 10" TREE

REVISIONS

NO.	DATE	AUTH	DESCRIPTION



NO SCALE

FILE: 116807C_Survey.doc

DATE: 05/26/15

CS: 50092

DESIGN UNIT: JAHAN

JN: 116807C

TSC: MACOMB

SURVEY INFORMATION SHEET

M-19 and 29 Mile Road		DRAWING	SHEET
		SURVEY	CONST
		001	13

NOTES

COORDINATE SYSTEM: STATE PLANE GRID
ZONE: MICHIGAN SOUTH 2113
ELLIPSOID: GRS 80
HORIZONTAL DATUM: NAD 83 (NSRS 2011)
VERTICAL DATUM: NAVD 88
GEOID: 2012A
UNITS: INTERNATIONAL FEET
SURVEY FIRM: SURVEYING SOLUTIONS, INC.
CONTROL ESTABLISHED: AUGUST, 2016

GROUND DISTANCE CONVERSION

THE COMBINED SCALE FACTOR (CSF) FOR EACH CONTROL POINT IS INCLUDED IN THE CONTROL POINT LIST.

AVERAGE COMBINED SCALE FACTOR (ACSF) = (CSF1 + CSF2)/2
 GROUND DISTANCE = GRID DISTANCE / ACSF

PLAN ELEVATION

ELEVATIONS SHOWN ON THESE PLANS ARE FROM DIFFERENTIAL LEVELING PERFORMED FROM NGS MONUMENTATION POINTS 50624 (PID: DI6383 DES: 50624) AND 50672 (PID: DI6144 DES: 50672) DATED AUGUST 4, 2016.

CONTROL

CONTROL PT#: 100

DESCRIPTION: SET 5/8" X 36" IRON ROD AND SSI CAP ON WEST SIDE OF M-19, +/-350' SOUTH OF CLAWSON ROAD
 COORDINATES: N=452003.875 E=13547157.208 EL= 615.565
 SDN= 0.021 SDE= 0.010 SDZ= 0.003
 COMBINED SCALE FACTOR: 0.99988661
 WITNESSES:
 1. S30°E 2.65' EDGE OF SHOULDER
 2. N45°E 84.75' NAIL AND RIBBON IN EAST FACE OF POWER POLE
 3. S85°W 74.30' FENCE CORNER
 4. N25°E 63.00' NAIL AND RIBBON IN EAST FACE OF 10" TREE

CONTROL PT#: 101

DESCRIPTION: SET 5/8" X 36" IRON ROD AND SSI CAP IN THE SOUTHEAST QUADRANT OF M-19 AND ARLINGTON ROAD, +/-3' EAST OF SIDEWALK
 COORDINATES: N=452831.807 E=13547819.428 EL= 619.706
 SDN= 0.023 SDE= 0.011 SDZ= 0.003
 COMBINED SCALE FACTOR: 0.99988631
 WITNESSES:
 1. N20°W 16.31' CENTERLINE OF WATER MANHOLE
 2. N87°E 14.63' TOP NUT OF FIRE HYDRANT
 3. N40°E 5.12' EDGE OF SIDEWALK
 4. N50°W 4.25' EDGE OF SIDEWALK

CONTROL PT#: 102

DESCRIPTION: SET 5/8" X 36" IRON ROD AND SSI CAP IN THE NORTHWEST QUADRANT OF M-19 AND 27 MILE ROAD
 COORDINATES: N=453769.893 E=13548235.400 EL= 623.181
 SDN= 0.015 SDE= 0.010 SDZ= 0.003
 COMBINED SCALE FACTOR: 0.99988603
 WITNESSES:
 1. N20°E 24.42' CENTERLINE OF BEEHIVE CATCH BASIN
 2. N63°E 28.25' CENTERLINE OF CATCH BASIN
 3. N55°W 10.60' EDGE OF SIDEWALK
 4. N60°E 12.00' BACK OF CURB

BENCHMARKS

BENCHMARK#: 200

DESCRIPTION: ARROW ON TOP OF FIRE HYDRANT ON EAST SIDE OF M-19, +/-350' SOUTH OF CLAWSON ROAD
 ELEVATION: 618.686 SDZ= 0.003

BENCHMARK#: 201

DESCRIPTION: ARROW ON TOP OF FIRE HYDRANT ON WEST SIDE OF M-19, ACROSS FROM ARLINGTON ROAD
 ELEVATION: 620.928 SDZ= 0.003

BENCHMARK#: 202

DESCRIPTION: ARROW ON TOP OF FIRE HYDRANT ON EAST SIDE OF M-19, +/-400' SOUTH OF 27 MILE ROAD, IN FRONT OF PNC BANK
 ELEVATION: 623.369 SDZ= 0.003

REVISIONS

NO.	DATE	AUTH	DESCRIPTION



NO SCALE

FILE: 129243C_Survey.doc

DATE: 01/10/2017

DESIGN UNIT: JAHAN

TSC: MACOMB

CS: 50092

JN: 129243C

SURVEY INFORMATION SHEET

M-19 @ ARLINGTON ROAD PASSING FL

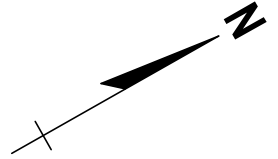
DRAWING SHEET

SURVEY CONST

002 14

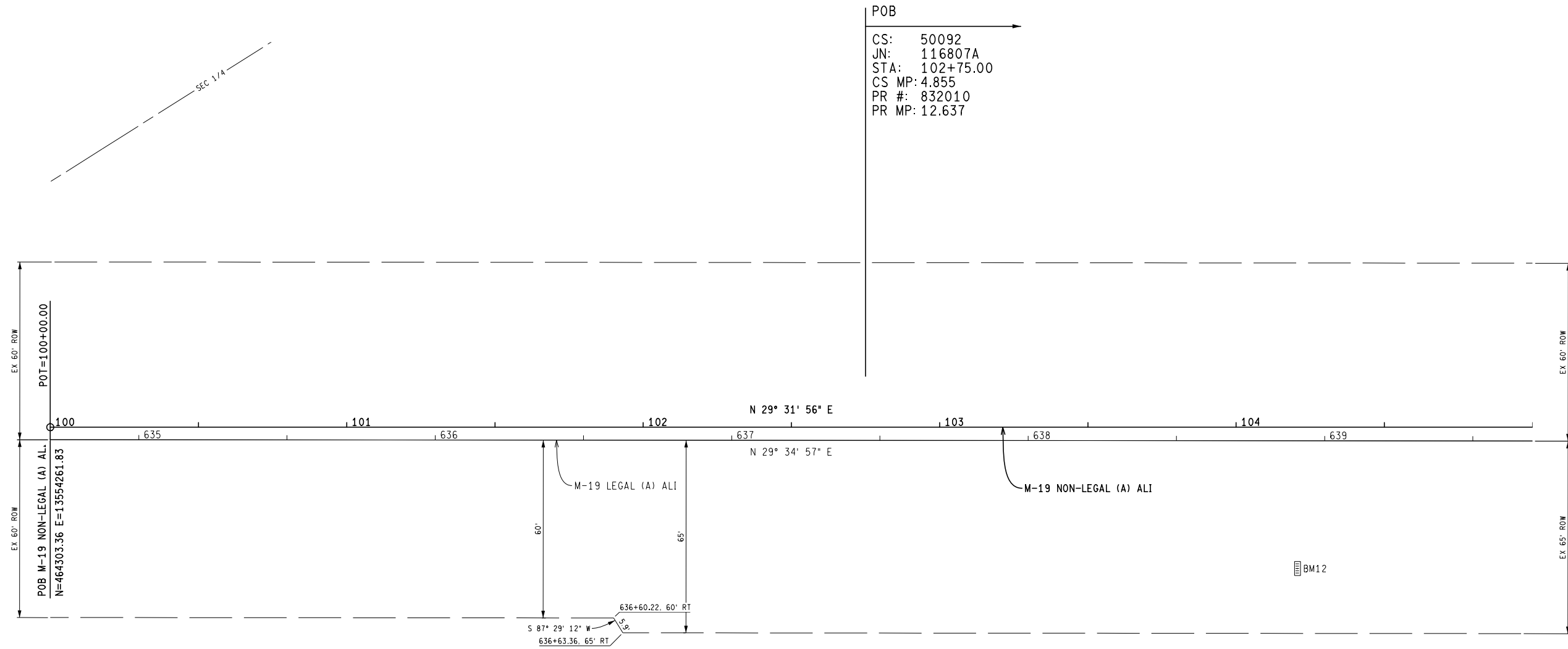
ALIGNMENT KEY
M-19 LEGAL (A) ALI = M-19 ALIGNMENT FROM FILE NO 50-R-2, 02-03-06 AS JN 50-24 AS RETRACED FOR JN116807C IN 2015
M-19 LEGAL (B) ALI = M-19 ALIGNMENT FROM FILE NO 50-R-2, 02-03-06 AS JN 50-24 AS RETRACED FOR JN129243C IN 2016
M-19 NON-LEGAL (A) ALI = AS CONSTRUCTED ALIGNMENT FOR M-19 AS RETRACED FOR JN116807C IN 2015
29 MILE ROAD NON-LEGAL ALI = AS CONSTRUCTED ALIGNMENT FOR 29 MILE ROAD AS RETRACED FOR JN116807C IN 2015
M-19 NON-LEGAL (B) ALI = AS CONSTRUCTED ALIGNMENT FOR M-19 AS RETRACED FOR JN129243C IN 2016

SECTION 23
T.4N. R.14E
LENOX TWP



M-19 (GRATIOT AVE)

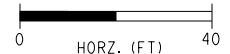
M-19 (GRATIOT AVE)



POB
CS: 50092
JN: 116807A
STA: 102+75.00
CS MP: 4.855
PR #: 832010
PR MP: 12.637

SECTION 23
T.4N. R.14E
LENOX TWP

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

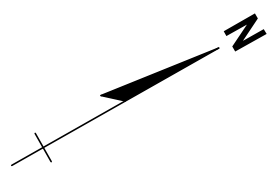


DATE: 04/19/17
DESIGN UNIT: JAHAN
FILE: 116807_ALI_REM_CON_PVMK_001.dwg

CS: 50092
JN: 116807A

ALIGNMENT SHEET
M-19 STA 102+75.00 POB TO STA 105+00

DRAWING	SHEET
M-19 ALI 001	SECT 1 15

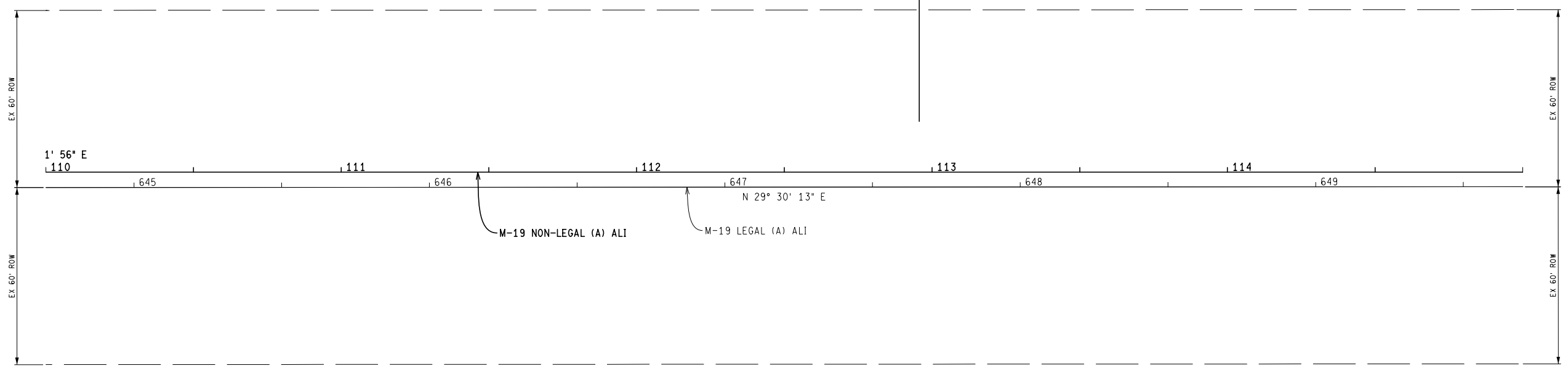


SECTION 14
T.4N. R.14E
LENOX TWP

POE
CS: 50092
JN: 116807A
STA: 112+95.70
CS MP: 5.048
PR #: 832010
PR MP: 12.830

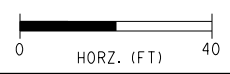
M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)



SECTION 14
T.4N. R.14E
LENOX TWP

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



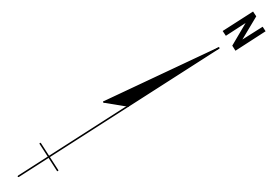
DATE: 04/19/17
DESIGN UNIT: JAHAN
FILE: 116807_ALI_REM_CON_PVMK_003.dgn

CS: 50092
JN: 116807A

ALIGNMENT SHEET
M-19 STA 110+00 TO STA 112+95.70 POE

DRAWING	SHEET
M-19 ALI 003	SECT 1 17

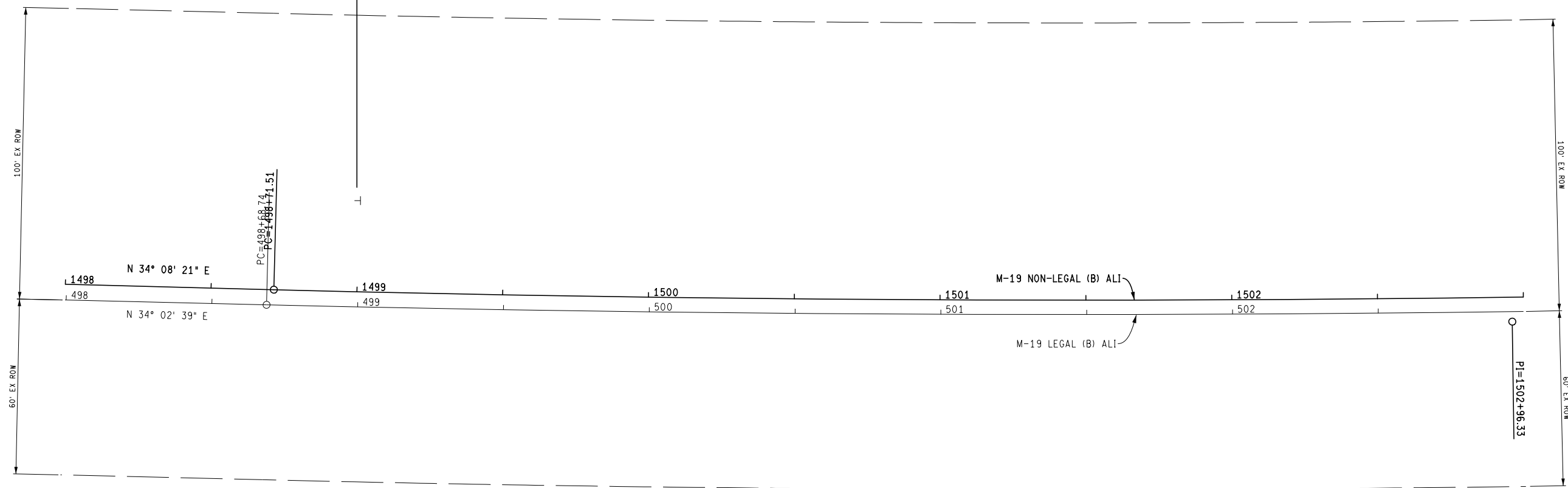
SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN



POB
CS: 50092
JN: 129243A
STA: 1499+00.00
CS MP: 2.233
PR #: 832010
PR MP: 10.015

M-19 (GRATIOT AVE)

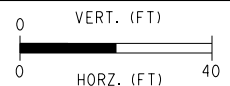
M-19 (GRATIOT AVE)



CURVE M-19 NON-LEGAL (B) ALI
 Δ = 4° 30' 34" (LT)
D = 0° 31' 52"
T = 424.82'
L = 849.20'
R = 10.789.47'
E = 8.36'
PC = 1498+71.51 N = 452.503.96 E = 13,547.525.54
PI = 1502+96.33 N = 452.855.58 E = 13,547.763.95
PT = 1507+20.71 N = 453.224.84 E = 13,547.973.97

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN

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



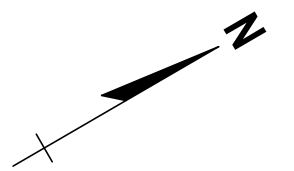
DATE: 04/19/17
DESIGN UNIT: JAHAN
FILE: 129243_ALI_REM_CON_PVMK_001.dwg

CS: 50092
JN: 129243A
TSC: MACOMB

ALIGNMENT SHEET
M-19 STA 1499+00 POB TO STA 1503+00

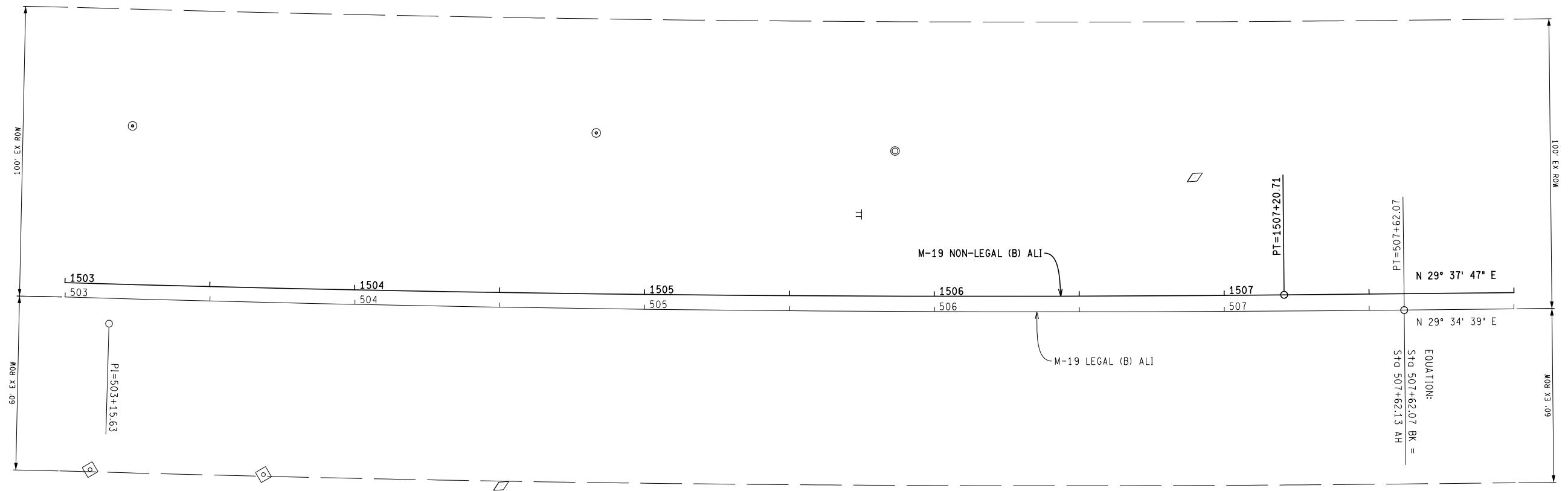
DRAWING	SHEET
M-19 ALI 004	SECT 1 18

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN



M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)



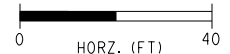
CURVE M-19 LEGAL (B) ALI
 Δ = 4° 28' 00" (LT)
D = 0° 30' 00"
T = 446.89'
L = 893.33'
R = 11,459.08'
E = 8.71'
PC = 498+68.74 N = 452,499.06 E = 13,547,528.56
PI = 503+15.63 N = 452,869.35 E = 13,547,778.75
PT = 507+62.07 N = 453,258.01 E = 13,547,999.33

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN

ARLINGTON DRIVE

JAMES CURTIN DRIVE

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



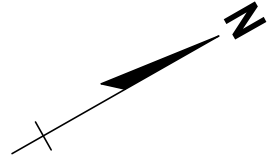
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DESIGN UNIT: JAHAN
FILE: 129243_ALI_REM_CON_PVMK_002.dgn

CS: 50092
JN: 129243A
TSC: MACOMB

ALIGNMENT SHEET
M-19 STA 1503+00 TO STA 1508+00

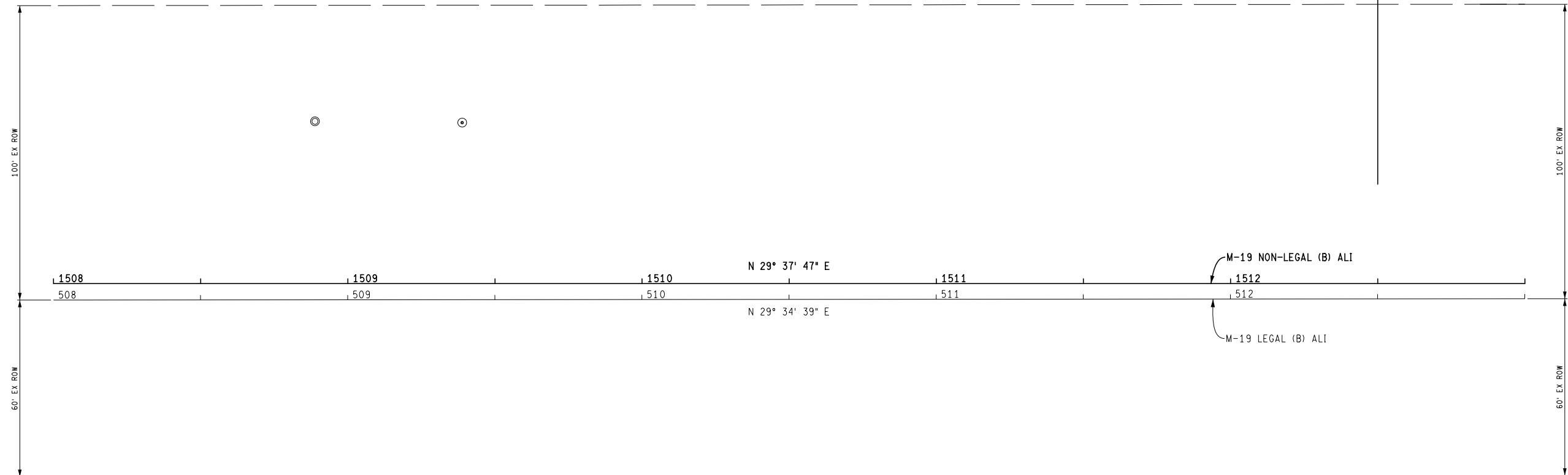
DRAWING	SHEET
M-19 ALI 005	SECT 1 19

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN



POE
CS: 50092
JN: 129243A
STA: 1512+50.00
CS MP: 2.489
PR #: 832010
PR MP: 10.271

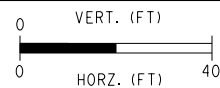
M-19 (GRATIOT AVE)



M-19 (GRATIOT AVE)

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN

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

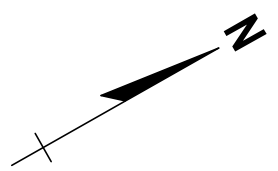


DATE: 04/19/17
DESIGN UNIT: JAHAN
FILE: 129243_ALI_REM_CON_PVMK_003.dgn TSC: MACOMB

CS: 50092
JN: 129243A

ALIGNMENT SHEET
M-19 STA 1508+00 TO STA 1512+50 POE

DRAWING	SHEET
M-19 ALI 006	SECT 1 20

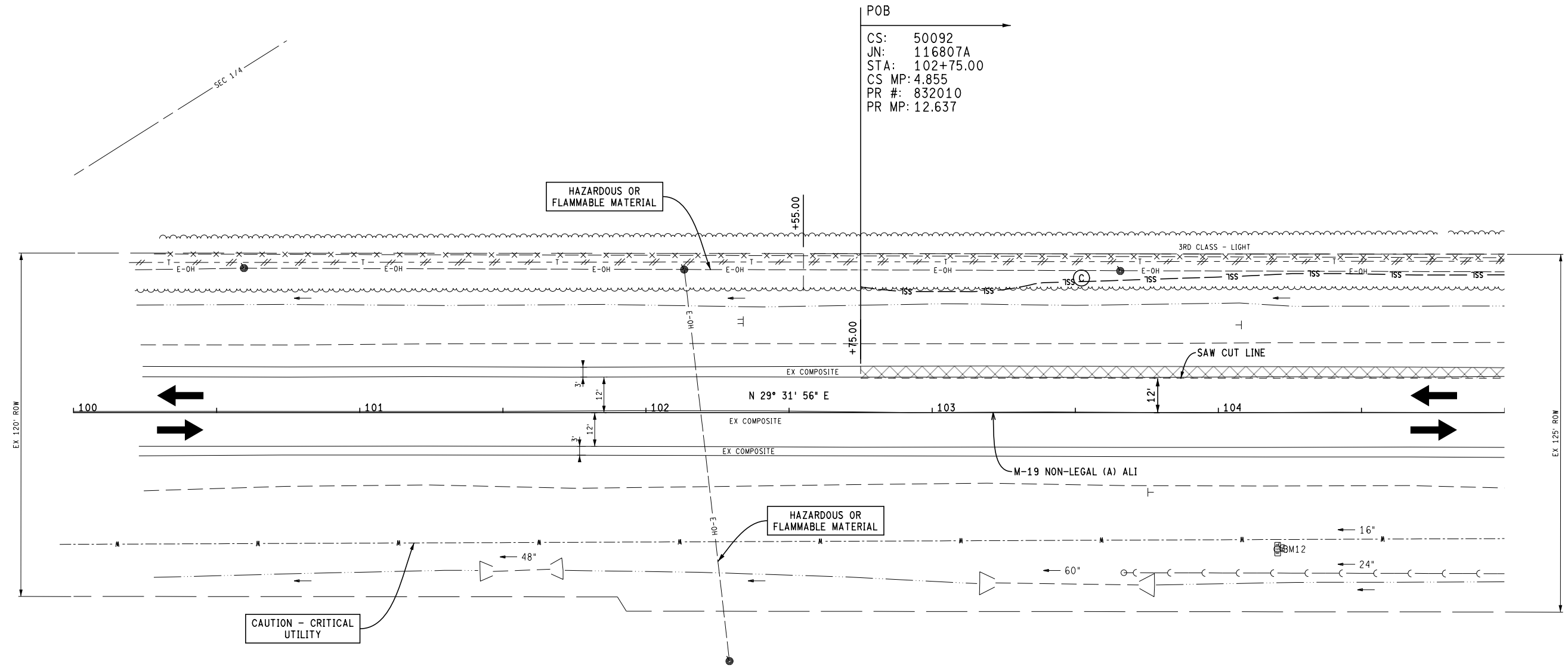


SECTION 23
T.4N. R.14E
LENOX TWP

POB
CS: 50092
JN: 116807A
STA: 102+75.00
CS MP: 4.855
PR #: 832010
PR MP: 12.637

M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)

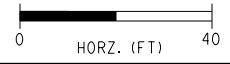


QUANTITIES THIS SHEET

JN 116807		
CAT 0001		
0.07	Acre	Clearing
103	Syd	Pavt. Rem
382	Cyd	Excavation, Earth
103	Syd	HMA Surface, Rem

SECTION 23
T.4N. R.14E
LENOX TWP

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

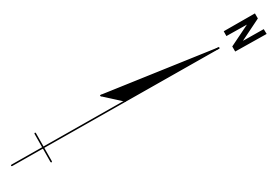


DATE: 04/19/17
DESIGN UNIT: JAHAN
FILE: 116807_ALI_REM_CON_PVMK_001.dwg

CS: 50092
JN: 116807A

REMOVAL SHEET
M-19 STA 102+75.00 POB TO STA 105+00

DRAWING SHEET
M-19 REM 001 SECT 1 21

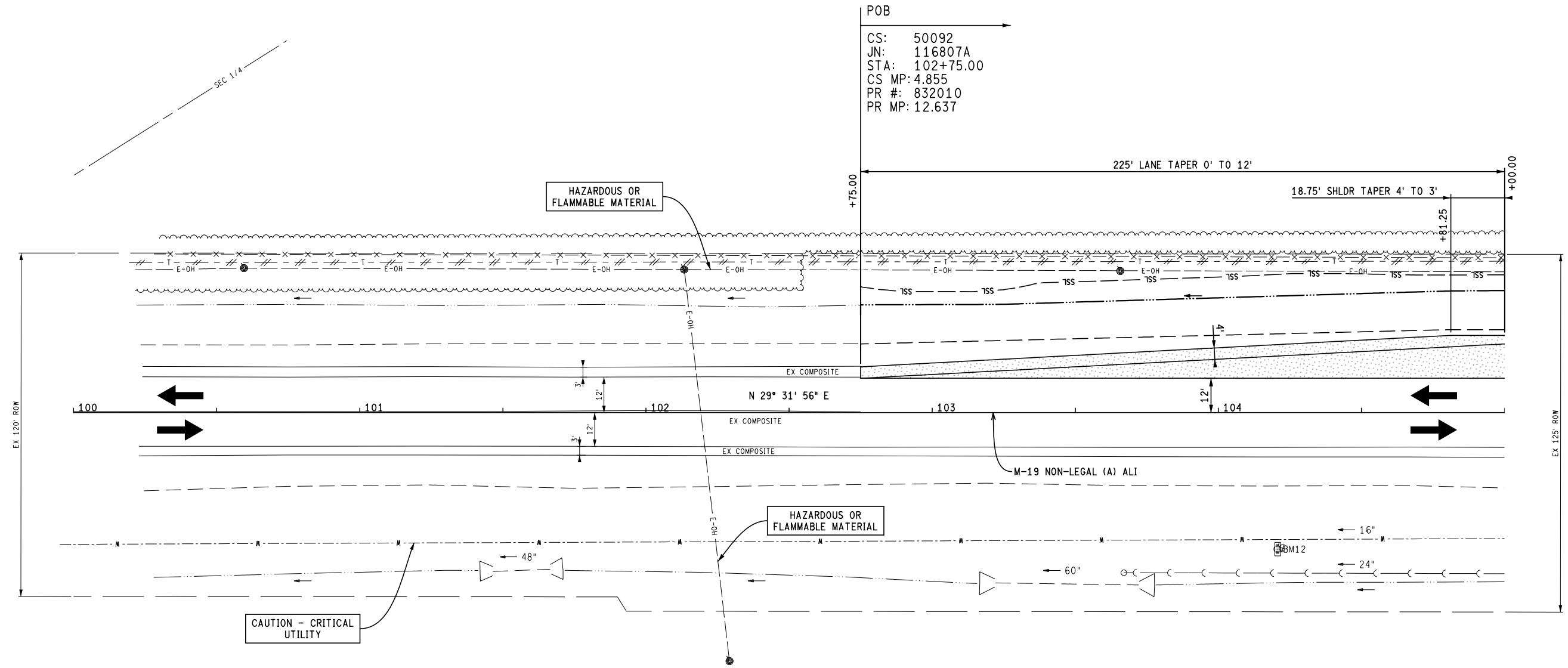


SECTION 23
T.4N. R.14E
LENOX TWP

POB
CS: 50092
JN: 116807A
STA: 102+75.00
CS MP: 4.855
PR #: 832010
PR MP: 12.637

M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)

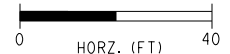


QUANTITIES THIS SHEET

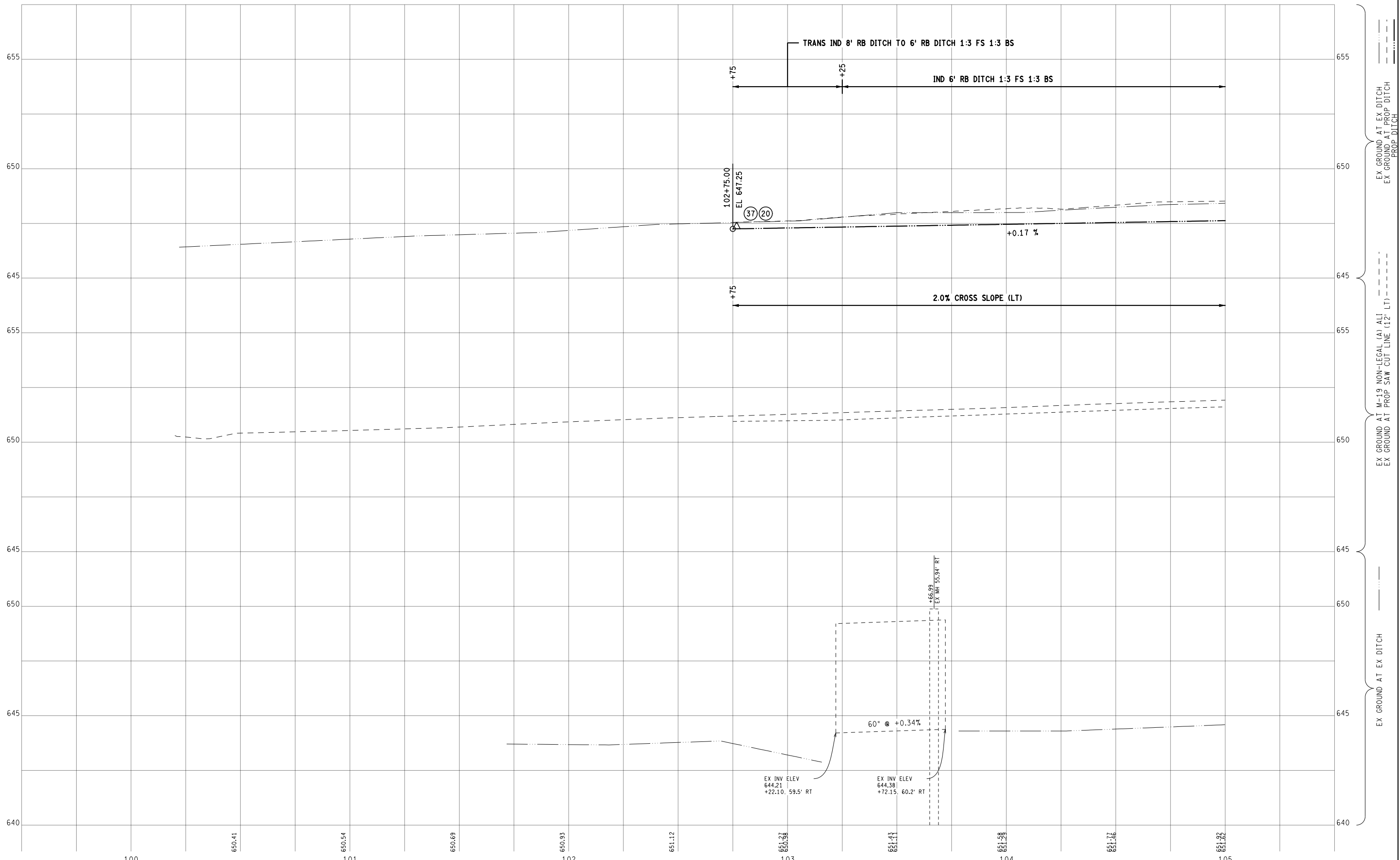
JN 116807 CAT 0001		
70	Cyd	Embankment, CIP
15	Ft	Erosion Control, Check Dam, Stone (37)
1	Ea	Erosion Control, Sediment Trap (20)
150	Syd	Aggregate Base, 12 inch
165	Syd	Aggregate Base, 15 inch
119	Syd	Shoulder, Cl II, 8 inch
225	Ft	Underdrain, Subbase, 6 inch
34	Ft	Underdrain Outlet, 6 inch
2	Ea	Underdrain, Outlet Ending, 6 inch
141	Ton	HMA Approach
843	Syd	Turf Establishment, Performance

SECTION 23
T.4N. R.14E
LENOX TWP

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

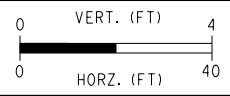


DATE: 04/19/17	CS: 50092	CONSTRUCTION SHEET	DRAWING	SHEET
DESIGN UNIT: JAHAN	JN: 116807A		M-19 CON 001	SECT 1 22
FILE: 116807_ALI_REM_CON_PVMK_001.dwg	SC: MACOMB	M-19 STA 102+75.00 POB TO STA 105+00		



EX GROUND AT EX DITCH
 EX GROUND AT PROP DITCH
 EX GROUND AT M-19 NON-LEGAL (A) ALI
 EX GROUND AT PROP SAW CUT LINE (12' LT)
 EX GROUND AT EX DITCH

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



DATE: 04/19/17
 DESIGN UNIT: JAHAN
 TSC: MACOMB
 FILE: 116807_PROFILE_001.dgn

CS: 50092
 JN: 116807A

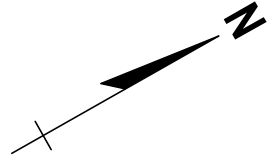
PROFILE SHEET
 M-19 STA 102+75.00 POB TO STA 105+00

DRAWING SHEET
 M-19 PROF 001 SECT 1 23

29 MILE RD

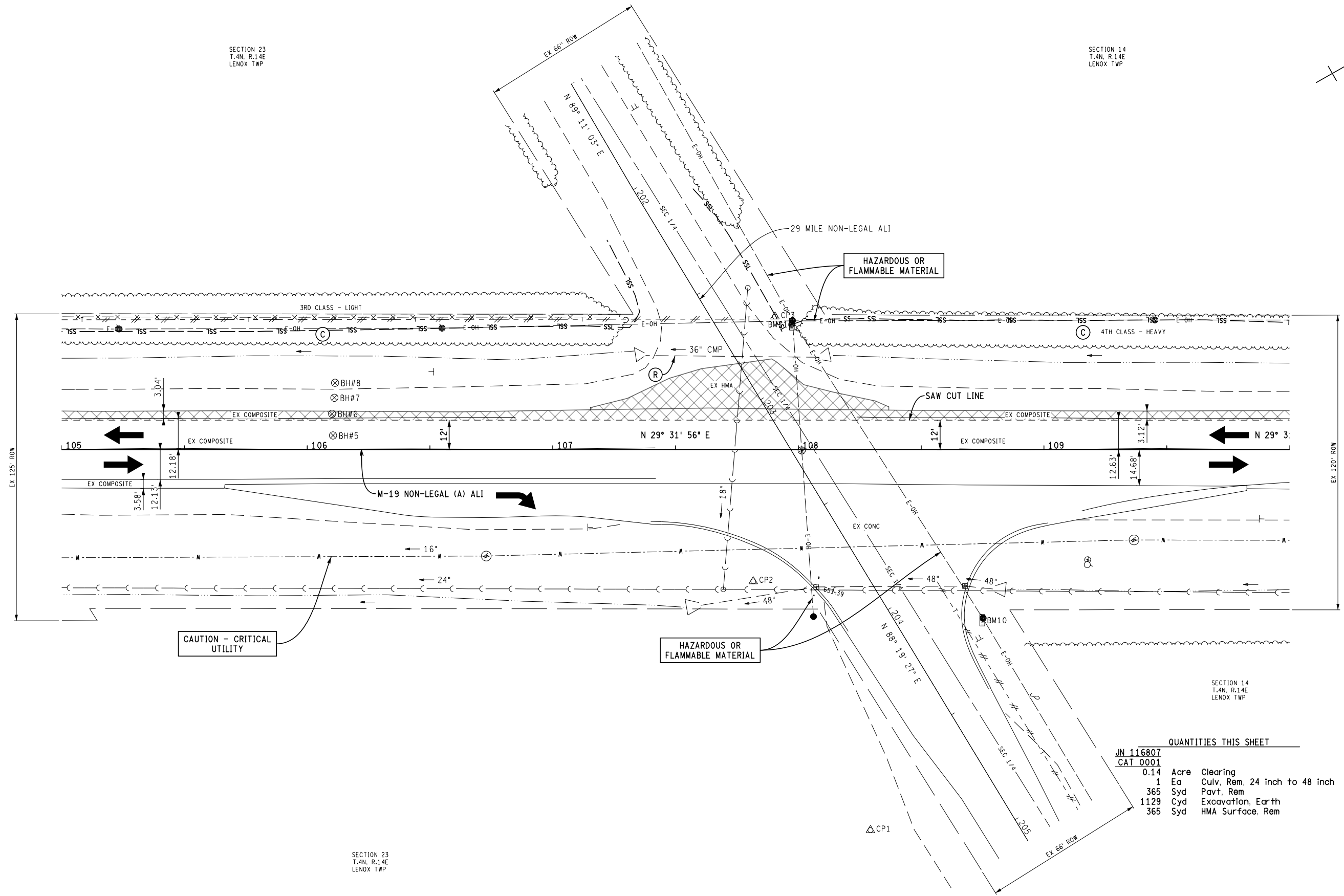
SECTION 23
T.4N, R.14E
LENOX TWP

SECTION 14
T.4N, R.14E
LENOX TWP



M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)



CAUTION - CRITICAL UTILITY

HAZARDOUS OR FLAMMABLE MATERIAL

HAZARDOUS OR FLAMMABLE MATERIAL

SECTION 14
T.4N, R.14E
LENOX TWP

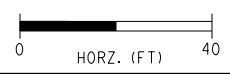
SECTION 23
T.4N, R.14E
LENOX TWP

QUANTITIES THIS SHEET

JN 116807		
CAT 0001		
0.14	Acre	Clearing
1	Ea	Culv. Rem. 24 inch to 48 inch
365	Syd	Pavt. Rem
1129	Cyd	Excavation, Earth
365	Syd	HMA Surface, Rem

29 MILE RD

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



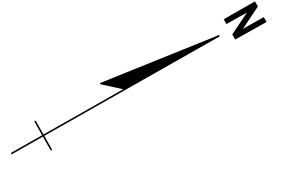
DATE: 04/19/17	CS: 50092
DESIGN UNIT: JAHAN	JN: 116807A
FILE: 116807_ALI_REM_CON_PVMK_002.dgn	
TSC: MACOMB	

REMOVAL SHEET		DRAWING	SHEET
M-19 STA 105+00 TO STA 110+00		M-19 REM 002	SECT 1 24

29 MILE RD

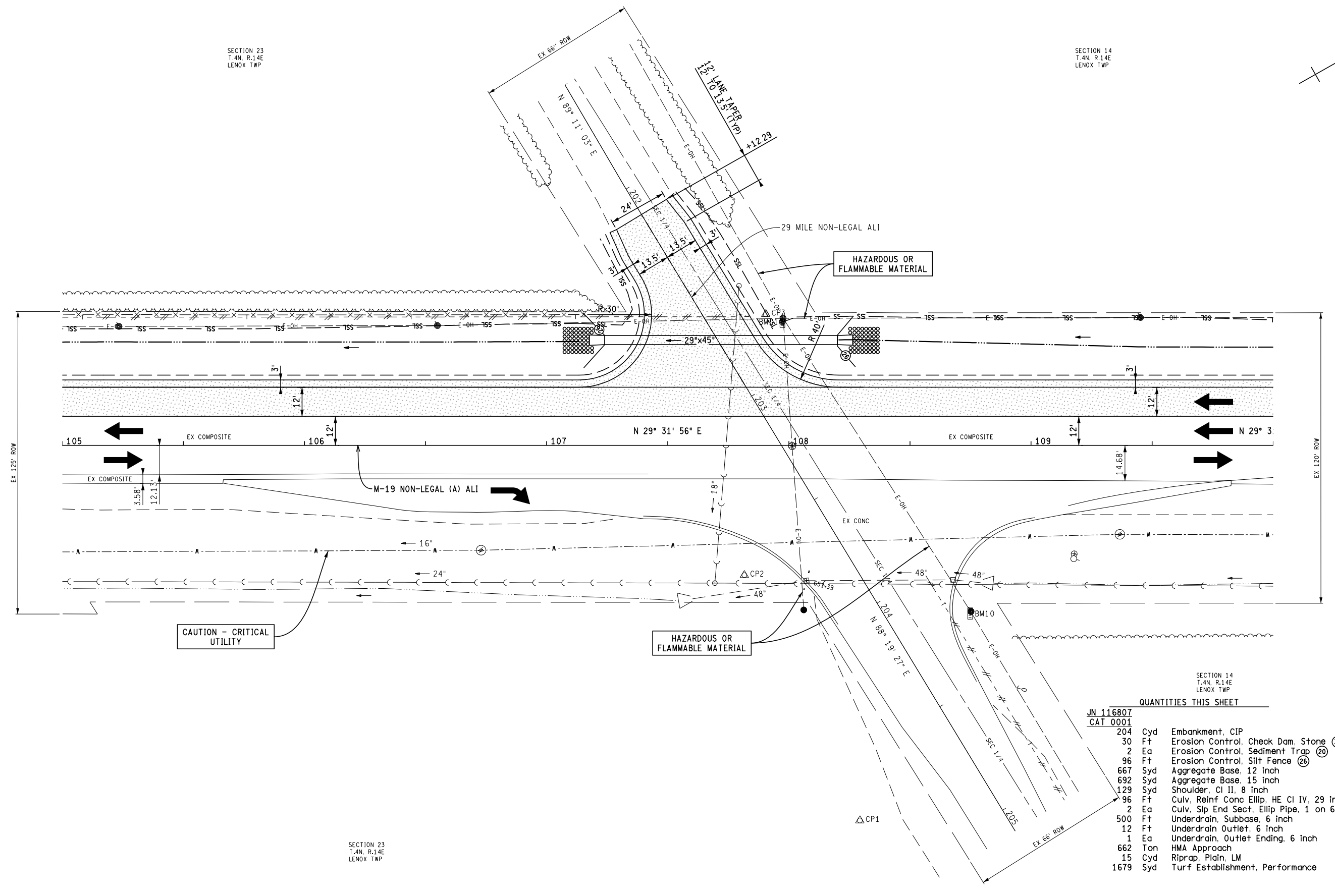
SECTION 23
T.4N, R.14E
LENOX TWP

SECTION 14
T.4N, R.14E
LENOX TWP



M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)



CAUTION - CRITICAL UTILITY

HAZARDOUS OR FLAMMABLE MATERIAL

HAZARDOUS OR FLAMMABLE MATERIAL

QUANTITIES THIS SHEET

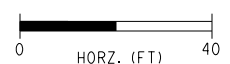
JN 116807 CAT 0001		
204	Cyd	Embankment, CIP
30	Ft	Erosion Control, Check Dam, Stone (37)
2	Ea	Erosion Control, Sediment Trap (20)
96	Ft	Erosion Control, Silt Fence (26)
667	Syd	Aggregate Base, 12 inch
692	Syd	Aggregate Base, 15 inch
129	Syd	Shoulder, CI II, 8 inch
96	Ft	Culv, Reinf Conc Ellip, HE CI IV, 29 inch by 45 inch
2	Ea	Culv, Slip End Sect, Ellip Pipe, 1 on 6, 29 inch by 45 inch, Longit
500	Ft	Underdrain, Subbase, 6 inch
12	Ft	Underdrain Outlet, 6 inch
1	Ea	Underdrain, Outlet Ending, 6 inch
662	Ton	HMA Approach
15	Cyd	Riprap, Plain, LM
1679	Syd	Turf Establishment, Performance

SECTION 23
T.4N, R.14E
LENOX TWP

SECTION 14
T.4N, R.14E
LENOX TWP

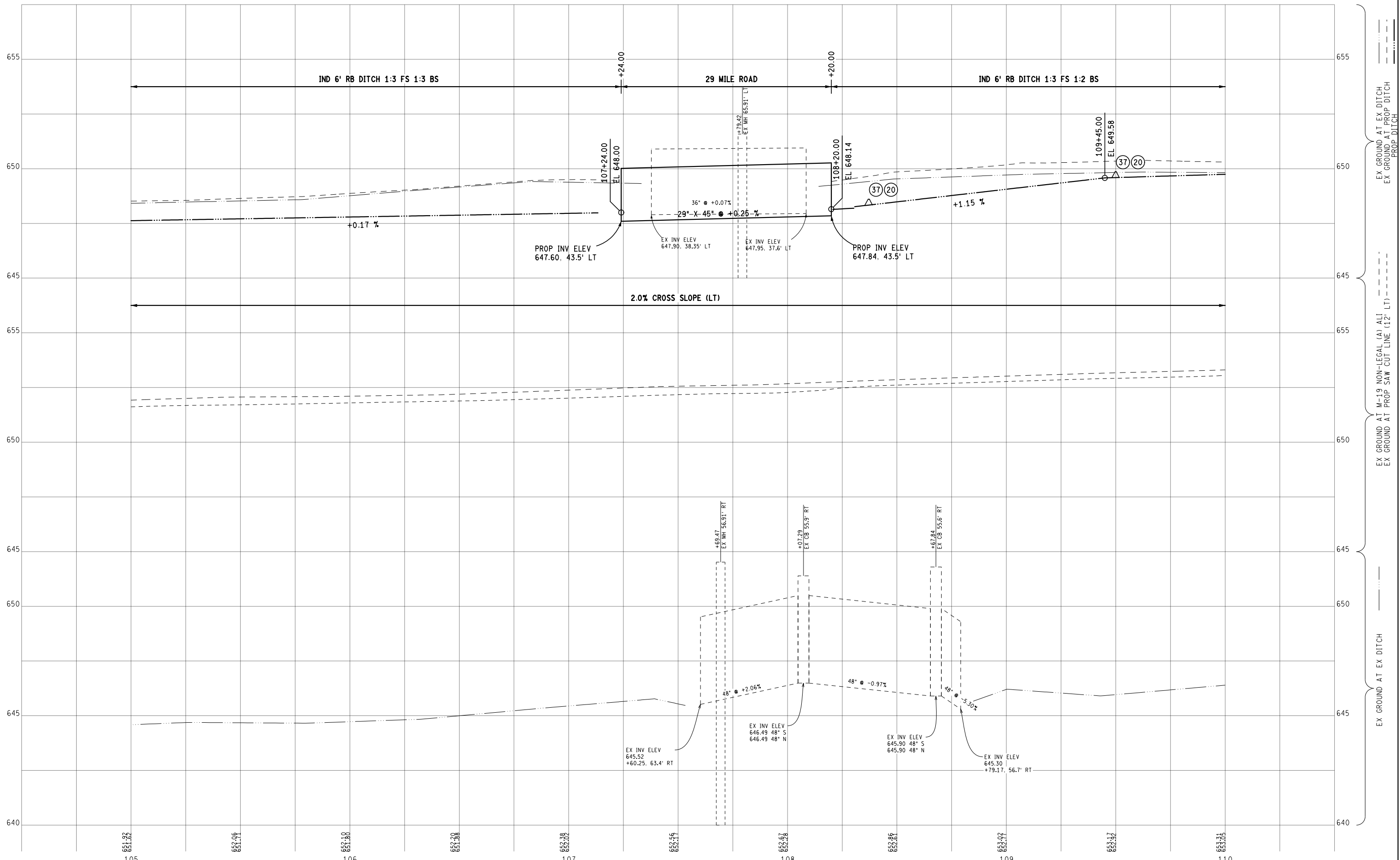
29 MILE RD

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

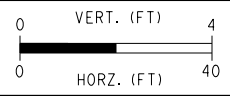


DATE: 04/19/17	CS: 50092
DESIGN UNIT: JAHAN	JN: 116807A
FILE: 116807_ALI_REM_CON_PVMK_002.dgn	
TSC: MACOMB	

CONSTRUCTION SHEET		DRAWING	SHEET
M-19 STA 105+00 TO STA 110+00		M-19 CON 002	SECT 1 25



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

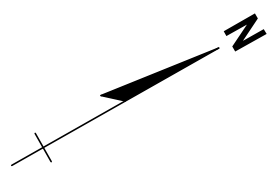


DATE: 04/19/17
 DESIGN UNIT: JAHAN
 TSC: MACOMB

CS: 50092
 JN: 116807A

PROFILE SHEET
 M-19 STA 105+00 TO STA 110+00

DRAWING	SHEET
M-19 PROF 002	SECT 1 26

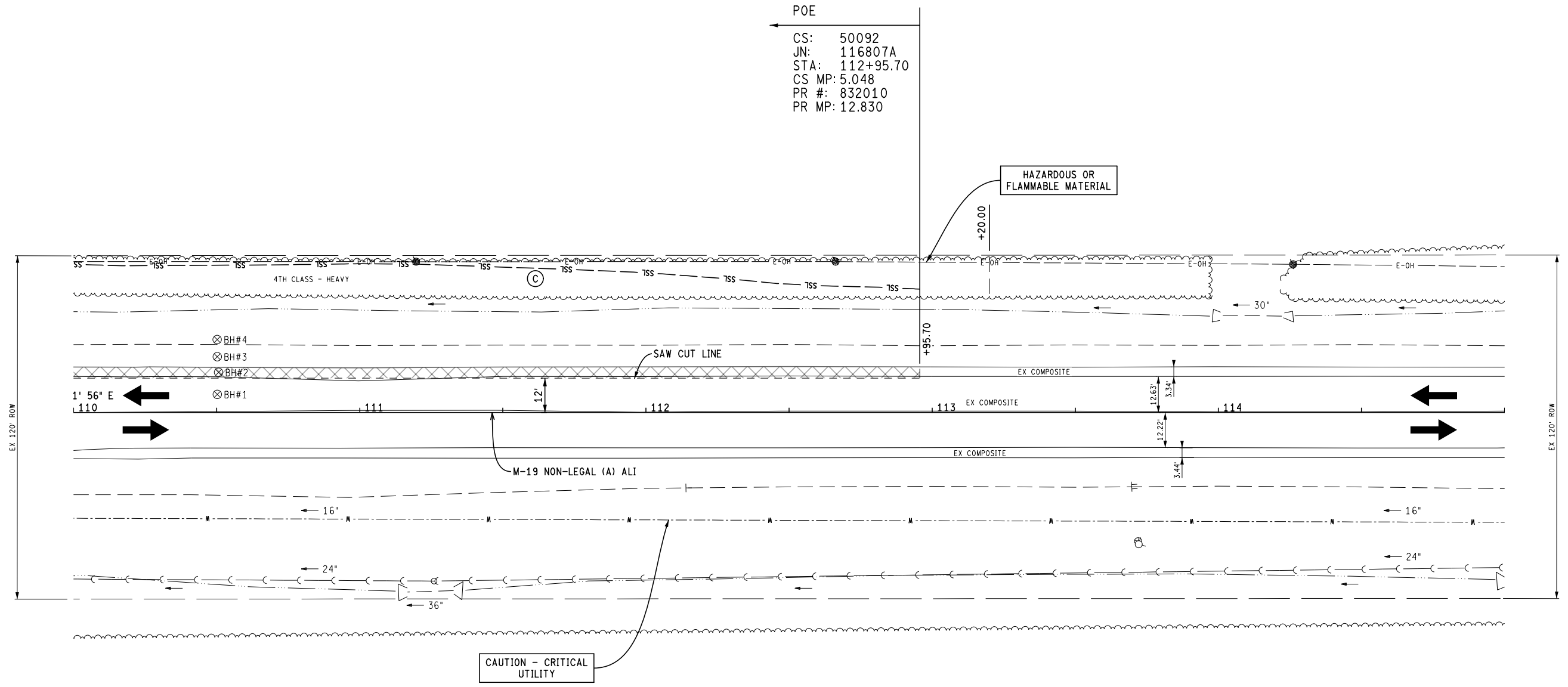


SECTION 14
T.4N. R.14E
LENOX TWP

POE
CS: 50092
JN: 116807A
STA: 112+95.70
CS MP: 5.048
PR #: 832010
PR MP: 12.830

M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)

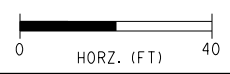


QUANTITIES THIS SHEET

JN 116807			
CAT 0001			
0.11	Acre	Clearing	
129	Syd	Pavt. Rem	
315	Cyd	Excavation, Earth	
129	Syd	HMA Surface, Rem	

SECTION 14
T.4N. R.14E
LENOX TWP

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

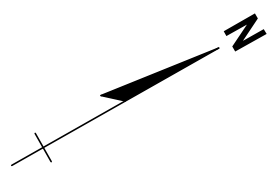


DATE: 04/19/17
DESIGN UNIT: JAHAN
FILE: 116807_ALI_REM_CON_PVMK_003.dwg

CS: 50092
JN: 116807A

REMOVAL SHEET
M-19 STA 110+00 TO STA 112+95.70 POE

DRAWING SHEET
M-19 REM 003 27

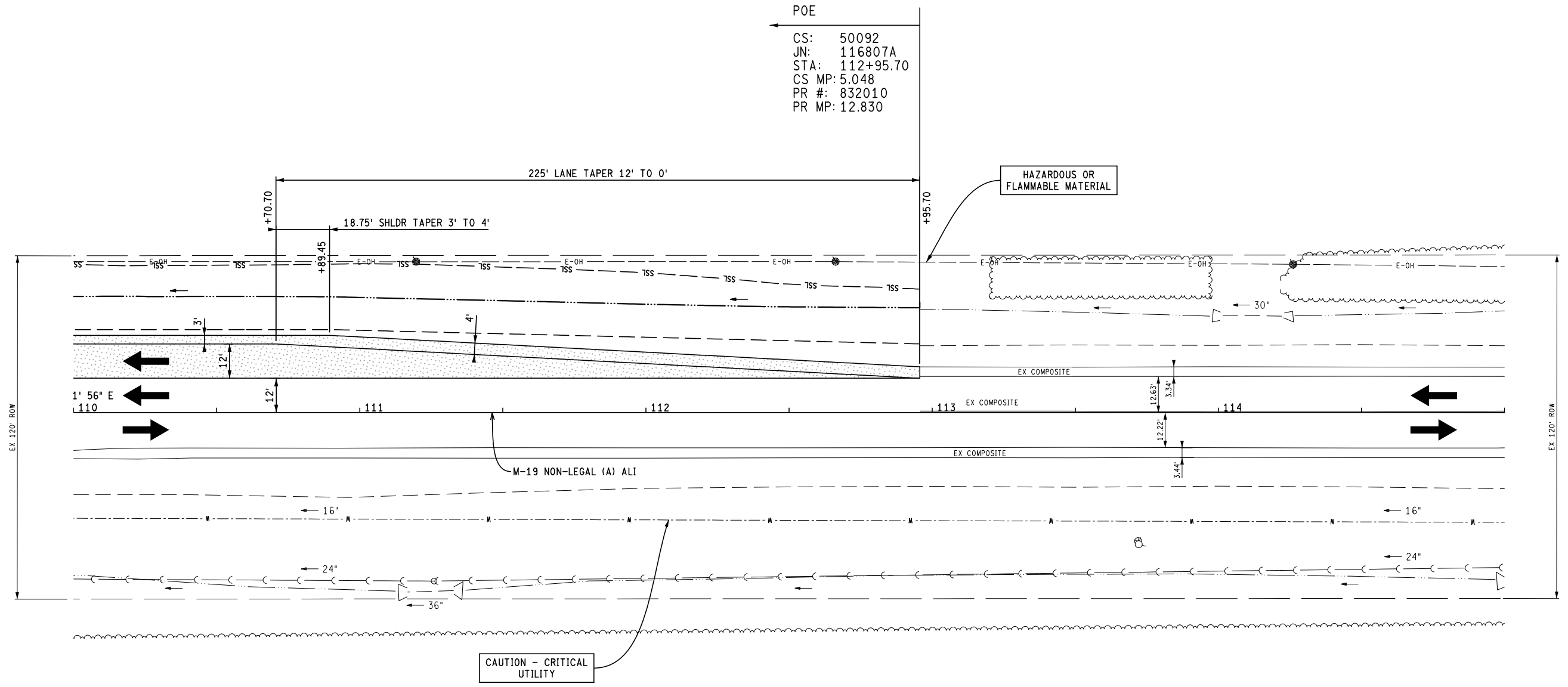


SECTION 14
T.4N. R.14E
LENOX TWP

POE
CS: 50092
JN: 116807A
STA: 112+95.70
CS MP: 5.048
PR #: 832010
PR MP: 12.830

M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)

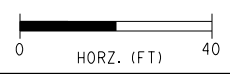


QUANTITIES THIS SHEET

JN 116807		
CAT 0001		
48	Cyd	Embankment, CIP
15	Ft	Erosion Control, Check Dam, Stone (37)
1	Ea	Erosion Control, Sediment Trap (20)
245	Syd	Aggregate Base, 12 inch
211	Syd	Aggregate Base, 15 inch
135	Syd	Shoulder, Cl II, 8 inch
300	Ft	Underdrain, Subbase, 6 inch
9	Ft	Underdrain Outlet, 6 inch
1	Ea	Underdrain, Outlet Ending, 6 inch
211	Ton	HMA Approach
1042	Syd	Turf Establishment, Performance

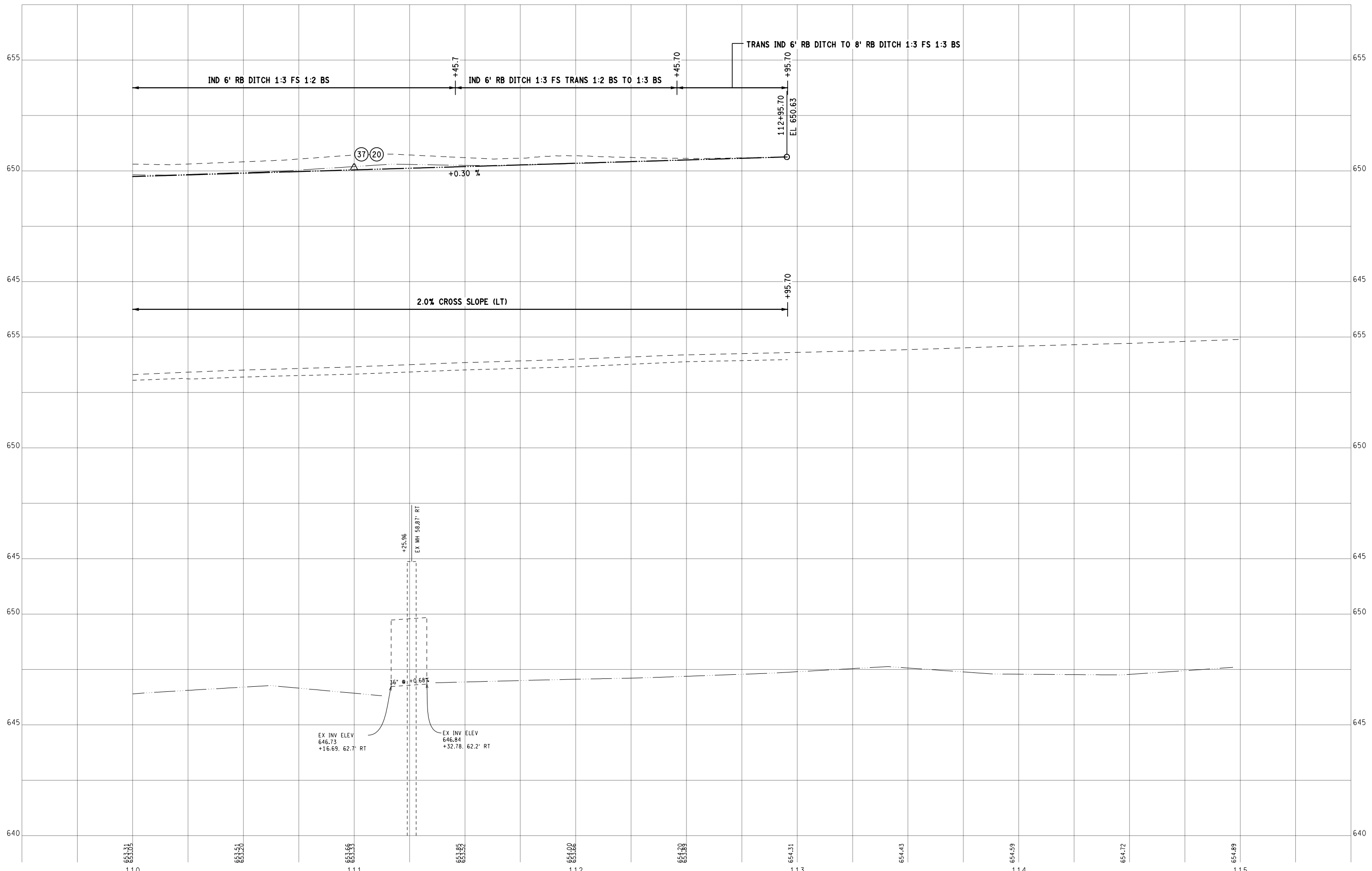
SECTION 14
T.4N. R.14E
LENOX TWP

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



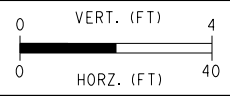
DATE: 04/19/17	CS: 50092
DESIGN UNIT: JAHAN	JN: 116807A
FILE: 116807_ALI_REM_CON_PVMK_003.dgn	
TSC: MACOMB	

CONSTRUCTION SHEET		DRAWING	SHEET
M-19 STA 110+00 TO STA 112+95.70 POE		M-19 CON 003	SECT 1 28



--- EX GROUND AT EX DITCH
 - - - EX GROUND AT PROP DITCH
 - - - EX GROUND AT M-19 NON-LEGAL (A) ALI
 - - - EX GROUND AT PROP SAW CUT LINE (12' LT)
 - - - EX GROUND AT EX DITCH

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



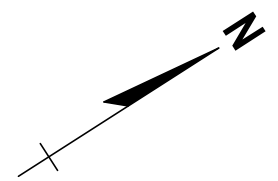
DATE: 04/19/17
 DESIGN UNIT: JAHAN
 TSC: MACOMB
 FILE: 116807_PROFILE_003.dgn

CS: 50092
 JN: 116807A

PROFILE SHEET
 M-19 STA 110+00 TO STA 112+95.70 POE

DRAWING SHEET
 M-19 PROF 003 SECT 1 29

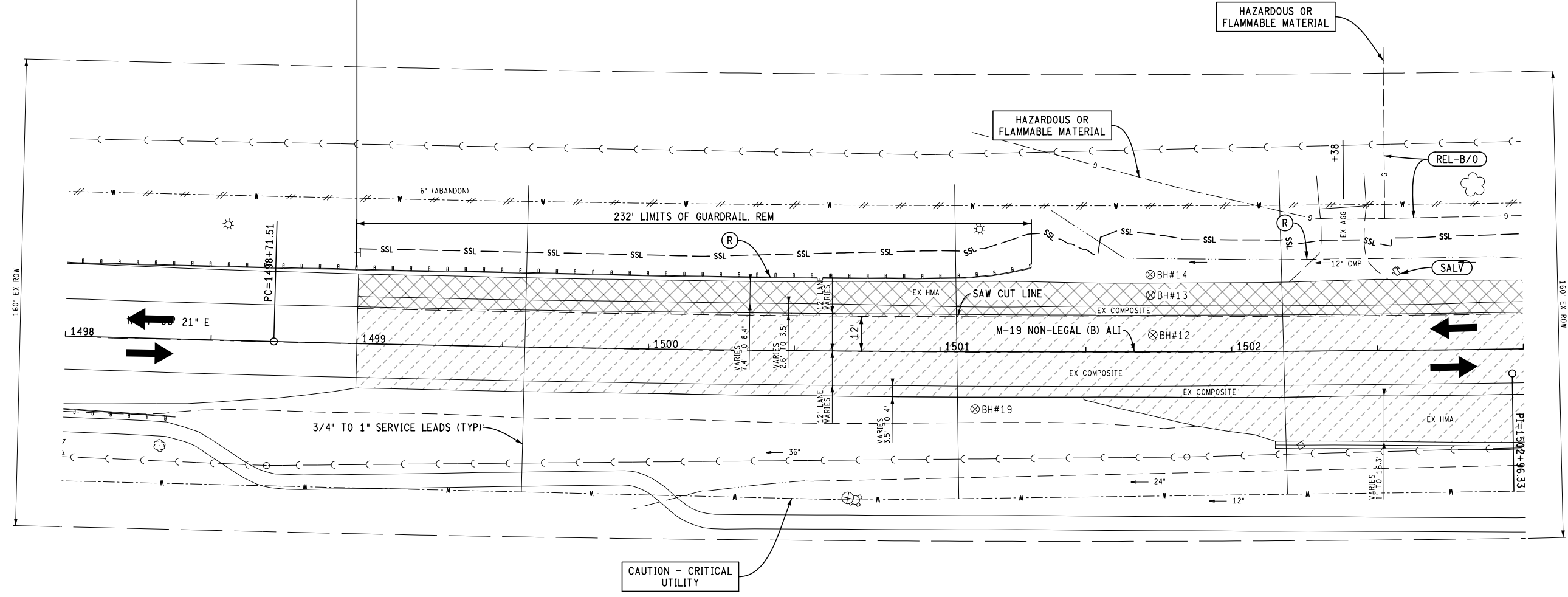
SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN



POB
CS: 50092
JN: 129243A
STA: 1499+00.00
CS MP: 2.233
PR #: 832010
PR MP: 10.015

M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)



CAUTION - CRITICAL UTILITY

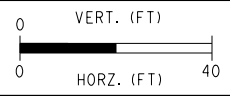
QUANTITIES THIS SHEET

JN 129243
CAT 0001

1	Ea	Culv. Rem. Less than 24 inch
232	Ft	Guardrail, Rem
173	Syd	Pavt. Rem
600	Cyd	Excavation, Earth
525	Syd	HMA Surface, Rem
1431	Syd	Micro Cold Milling, HMA, 0 to 2 inches
1	Ea	Post, Mailbox

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN

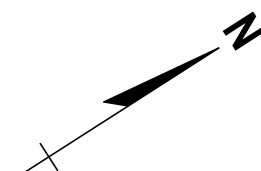
FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE:)	
NO.	DATE	AUTH	DESCRIPTION



DATE: 04/19/17	CS: 50092
DESIGN UNIT: JAHAN	JN: 129243A
FILE: 129243_ALI.REM.CON.PVMK_001.dgn	SC: MACOMB

REMOVAL SHEET		DRAWING	SHEET
M-19 STA 1499+00 POB TO STA 1503+00		M-19 REM 004	SECT 1 30

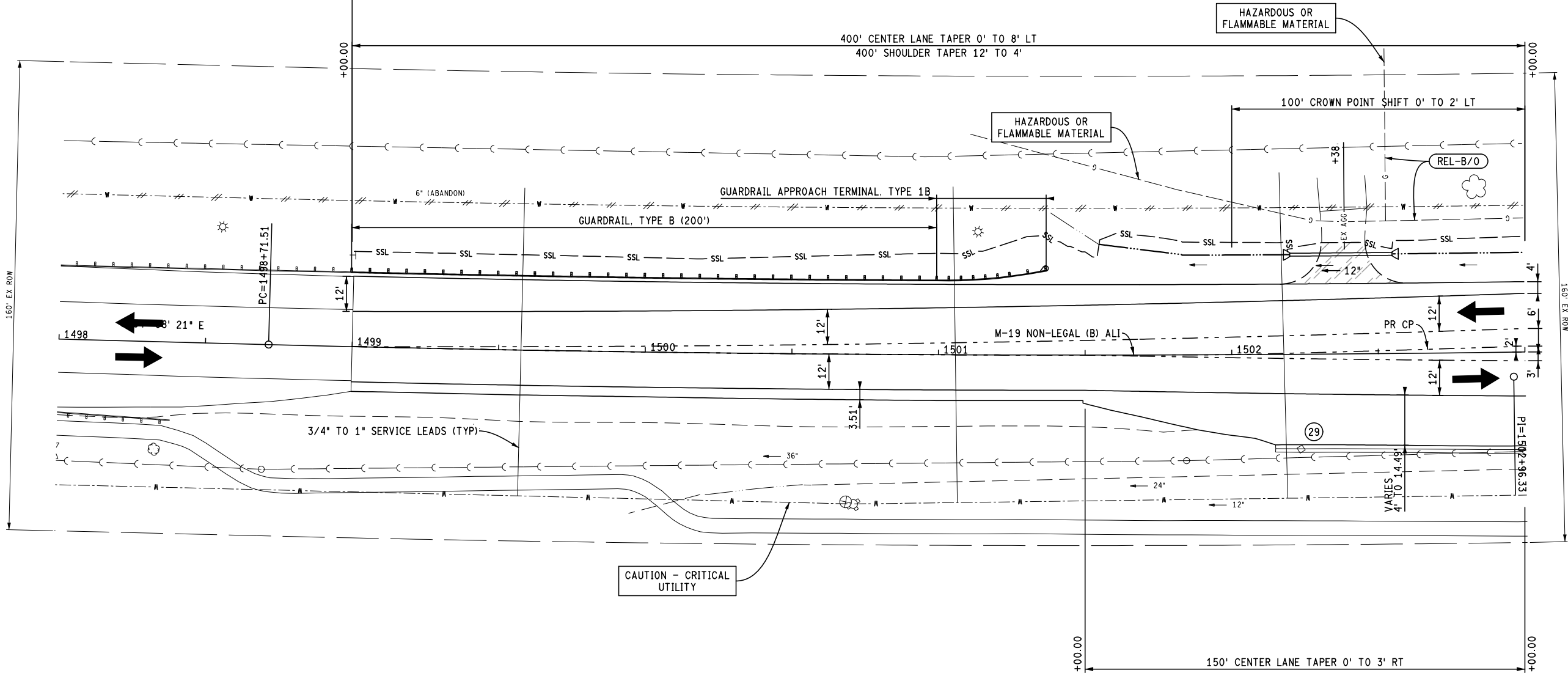
SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN



POB
CS: 50092
JN: 129243A
STA: 1499+00.00
CS MP: 2.233
PR #: 832010
PR MP: 10.015

M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)



CAUTION - CRITICAL UTILITY

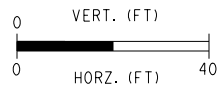
DRIVEWAY TABLE			PROPOSED DRIVEWAY SLOPE	PROPOSED DRIVEWAY WIDTH	PROPOSED ENTERING RADIUS	PROPOSED EXITING RADIUS	Approach, CI II, 8 inch	Culv End Sect, 15 inch	Culv, CI F, 15 inch
ALIGNMENT	STATION	BACK OF DRIVE OFFSET FROM ALI							
M-19 Non-Legal (B)	1502+38 LT	38.0	0.8%	15.0	14.0	14.0	Syd	Ea	Ft
TOTAL							33	2	35

QUANTITIES THIS SHEET

NO.	UNIT	DESCRIPTION
139	Cyd	Embankment, CIP
12	Ft	Erosion Control, Check Dam, Stone (37)
1	Ea	Erosion Control, Inlet Protection, Fabric Drop (29)
1	Ea	Erosion Control, Sediment Trap (20)
1600	Syd	Aggregate Base, 12 inch
491	Syd	Aggregate Base, 15 inch
20	Cyd	Shoulder, CI II, LM
89	Syd	Shoulder, CI II, 8 inch
400	Ft	Underdrain, Subbase, 6 inch
35	Ft	Underdrain Outlet, 6 inch
2	Ea	Underdrain, Outlet Ending, 6 inch
447	Ton	HMA Approach
200	Ft	Guardrail, Type B
1	Ea	Guardrail Approach Terminal, Type 1B
1415	Syd	Turf Establishment, Performance

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN

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

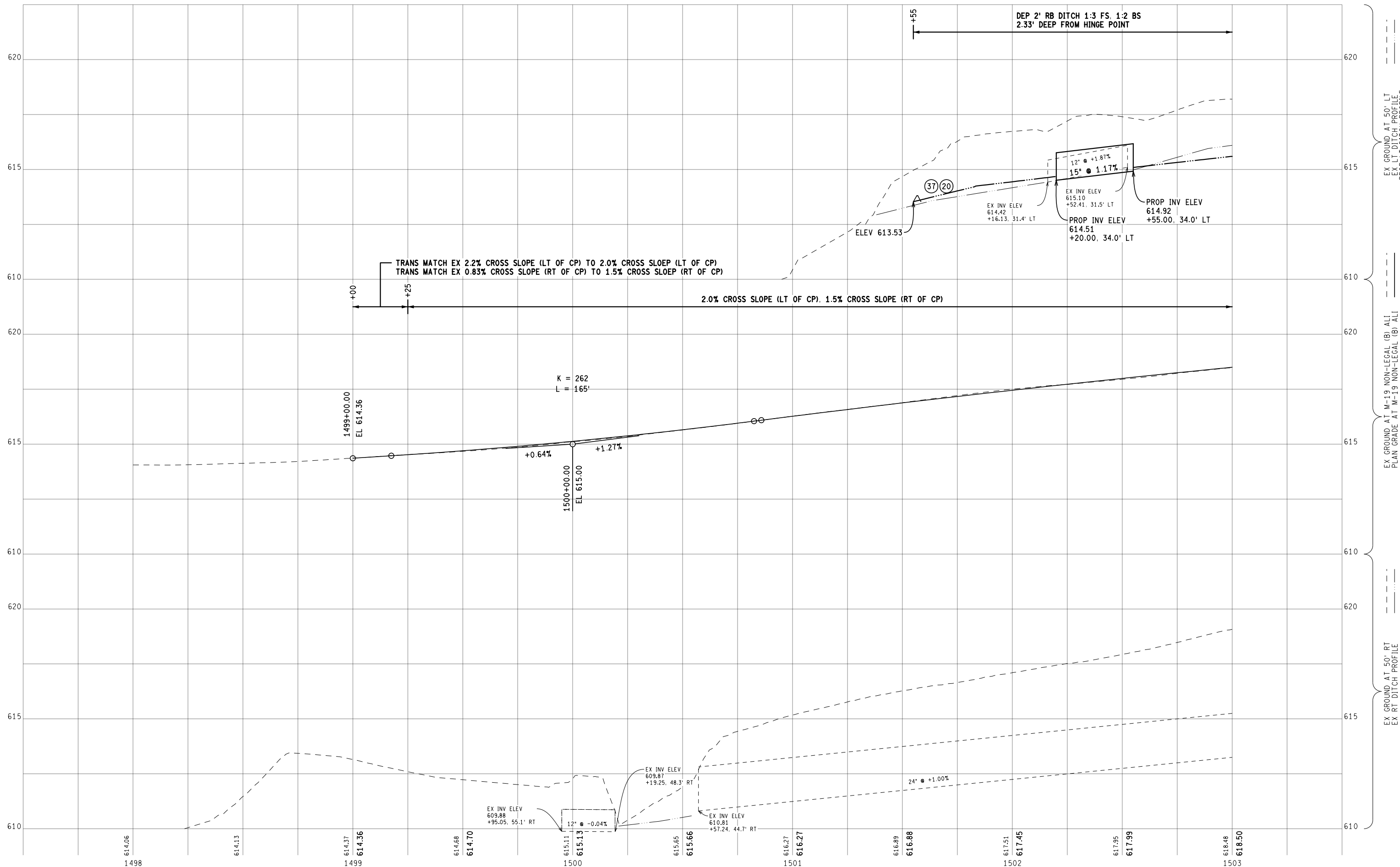


DATE: 04/19/17
DESIGN UNIT: JAHAN
FILE: 129243_ALI_REM_CON_PVMK_001.dwg

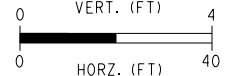
CS: 50092
JN: 129243A

CONSTRUCTION SHEET
M-19 STA 1499+00 POB TO STA 1503+00

DRAWING SHEET
M-19 CON 004 SECT 1 31



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



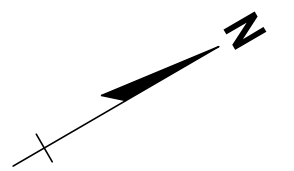
DATE: 04/19/17
 DESIGN UNIT: JAHAN
 TSC: MACOMB
 FILE: 129243_PROFILE_001.dgn

CS: 50092
 JN: 129243A

PROFILE SHEET
 M-19 STA 1499+00 POB TO STA 1503+00

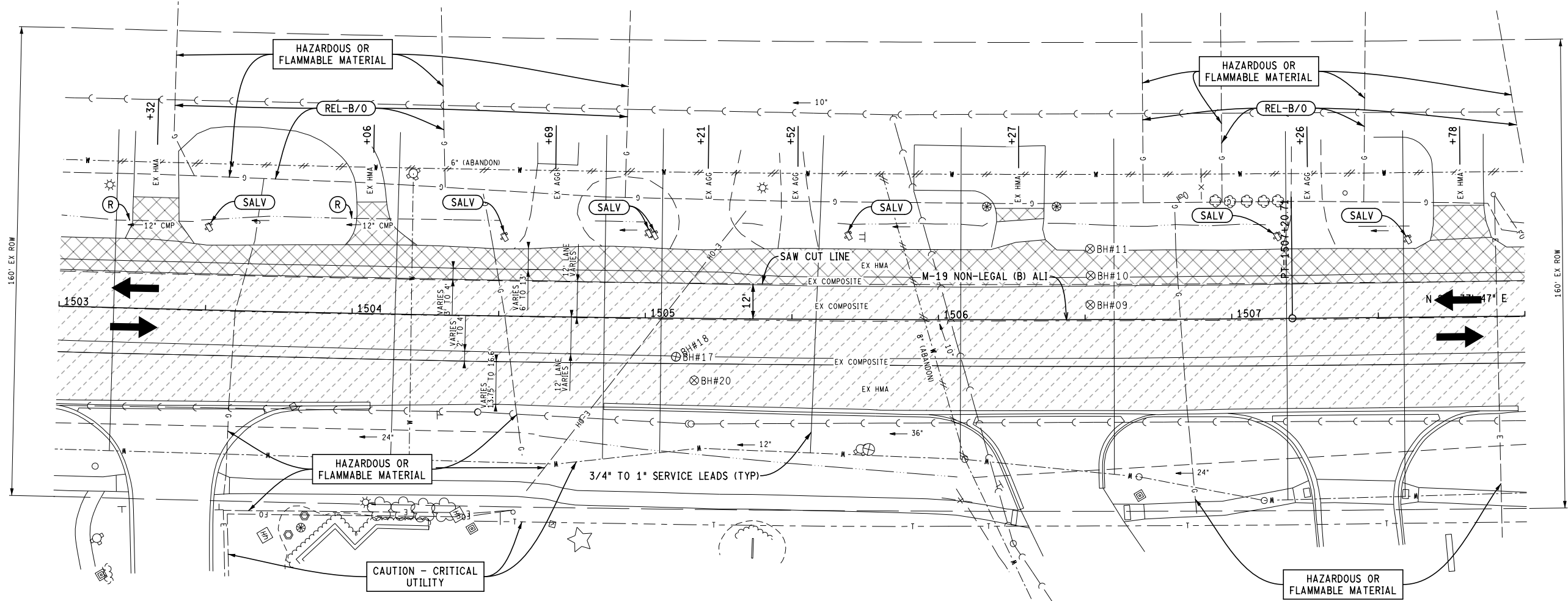
DRAWING SHEET
 M-19 PROF 004 SECT 1 32

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN



M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)



QUANTITIES THIS SHEET

JN 129243
CAT 0001

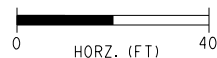
2	Ea	Culv. Rem. Less than 24 inch
183	Syd	Pavt. Rem
821	Cyd	Excavation, Earth
739	Syd	HMA Surface, Rem
2376	Syd	Micro Cold Milling, HMA, 0 to 2 inches
7	Ea	Post, Mailbox

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN

ARLINGTON DRIVE

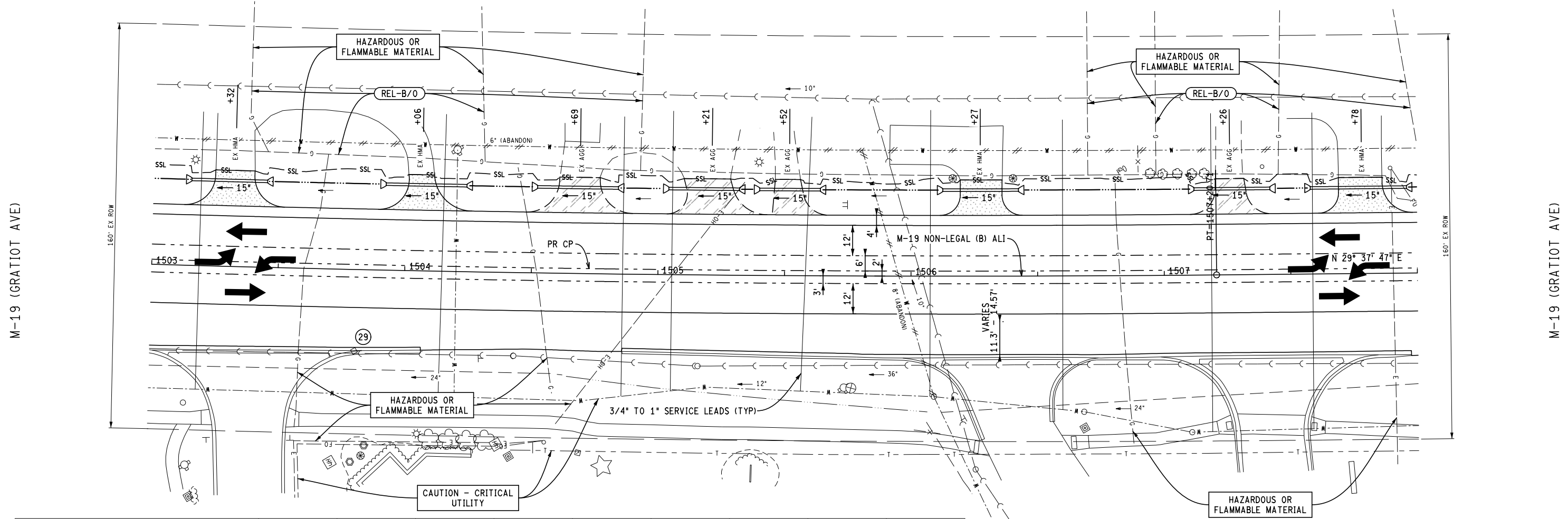
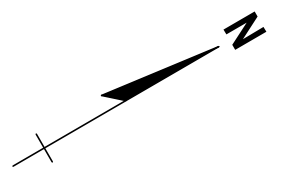
JAMES CURTIN DRIVE

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



DATE: 04/19/17	CS: 50092	REMOVAL SHEET	DRAWING	SHEET
DESIGN UNIT: JAHAN	JN: 129243A	M-19 STA 1503+00 TO STA 1508+00	M-19 REM 005	SECT 1 33
FILE: 129243_ALI_REM_CON_PVMK_002.dwg	TSC: MACOMB			

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN



DRIVEWAY TABLE			PROPOSED DRIVEWAY SLOPE	PROPOSED DRIVEWAY WIDTH	PROPOSED ENTERING RADIUS	PROPOSED EXITING RADIUS	Aggregate Base, 6 inch	Approach, CI II, 8 inch	Culv End Sect, 15 inch	Culv, CI F, 15 inch	HMA Approach	
ALIGNMENT	STATION	BACK OF DRIVE OFFSET FROM ALI										
M-19 Non-Legal (B)	1503+32 LT	38.0	-0.2%	15.5	12.0	12.0	Syd 31	Syd --	Ea 2	Ft 30	Ton 9	
M-19 Non-Legal (B)	1504+06 LI	38.0	1.2%	10.0	15.0	12.0	25	--	2	32	7	
M-19 Non-Legal (B)	1504+69 LT	38.0	0.8%	16.0	13.0	13.0	--	33	2	32	--	
M-19 Non-Legal (B)	1505+21 LT	38.0	2.4%	18.3	14.0	8.0	--	34	2	28	--	
M-19 Non-Legal (B)	1505+52 LT	38.0	2.5%	10.0	10.0	--	--	21	2	24	--	
M-19 Non-Legal (B)	1506+27 LT	38.0	1.5%	16.5	8.0	8.0	29	--	2	30	8	
M-19 Non-Legal (B)	1507+26 LT	38.0	1.2%	11.3	10.0	10.0	--	24	2	30	--	
M-19 Non-Legal (B)	1507+78 LT	38.0	-0.4%	17.3	12.0	8.0	32	--	2	38	9	
TOTAL							117	112	16	244	33	

QUANTITIES THIS SHEET

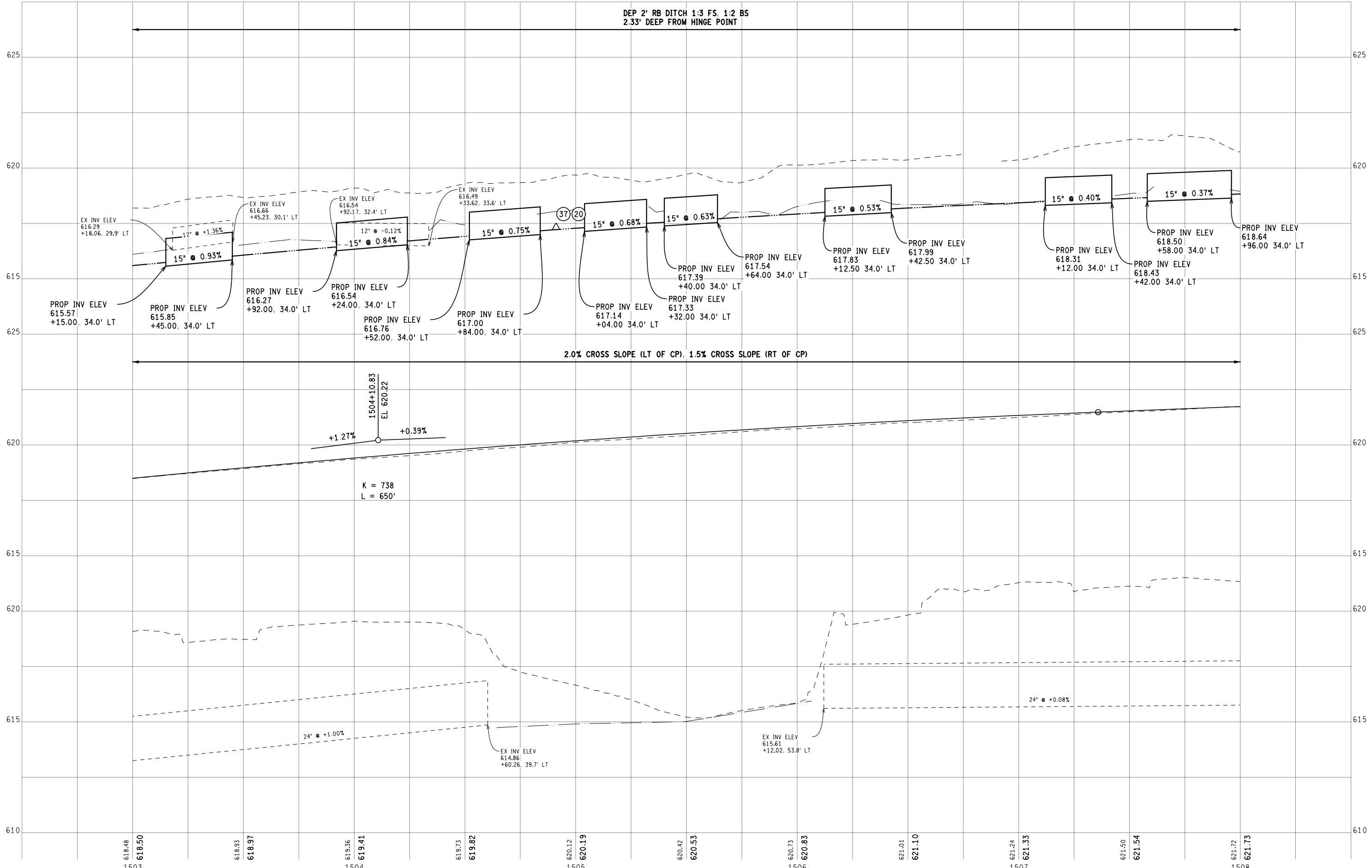
JN 129243
CAT 0001

238	Cyd	Embankment, CIP
12	Ft	Erosion Control, Check Dam, Stone (37)
1	Ea	Erosion Control, Inlet Protection, Fabric Drop (29)
1	Ea	Erosion Control, Sediment Trap (20)
4000	Syd	Aggregate Base, 12 inch
398	Syd	Aggregate Base, 15 inch
112	Syd	Shoulder, CI II, 8 inch
500	Ft	Underdrain, Subbase, 6 inch
19	Ft	Underdrain Outlet, 6 inch
1	Ea	Underdrain, Outlet Ending, 6 inch
671	Ton	HMA Approach
1528	Syd	Turf Establishment, Performance

ARLINGTON DRIVE

JAMES CURTIN DRIVE

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN



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

0 VERT. (FT) 4

0 HORZ. (FT) 40

DATE: 04/19/17

DESIGN UNIT: JAHAN

TSC: MACOMB

CS: 50092

JN: 129243A

PROFILE SHEET

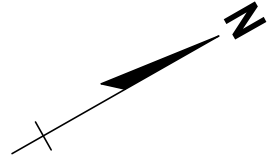
M-19 STA 1503+00 TO STA 1508+00

DRAWING SHEET

M-19 PROF 005 SECT 1 35

FILE: 129243_PROFILE_002.dgn

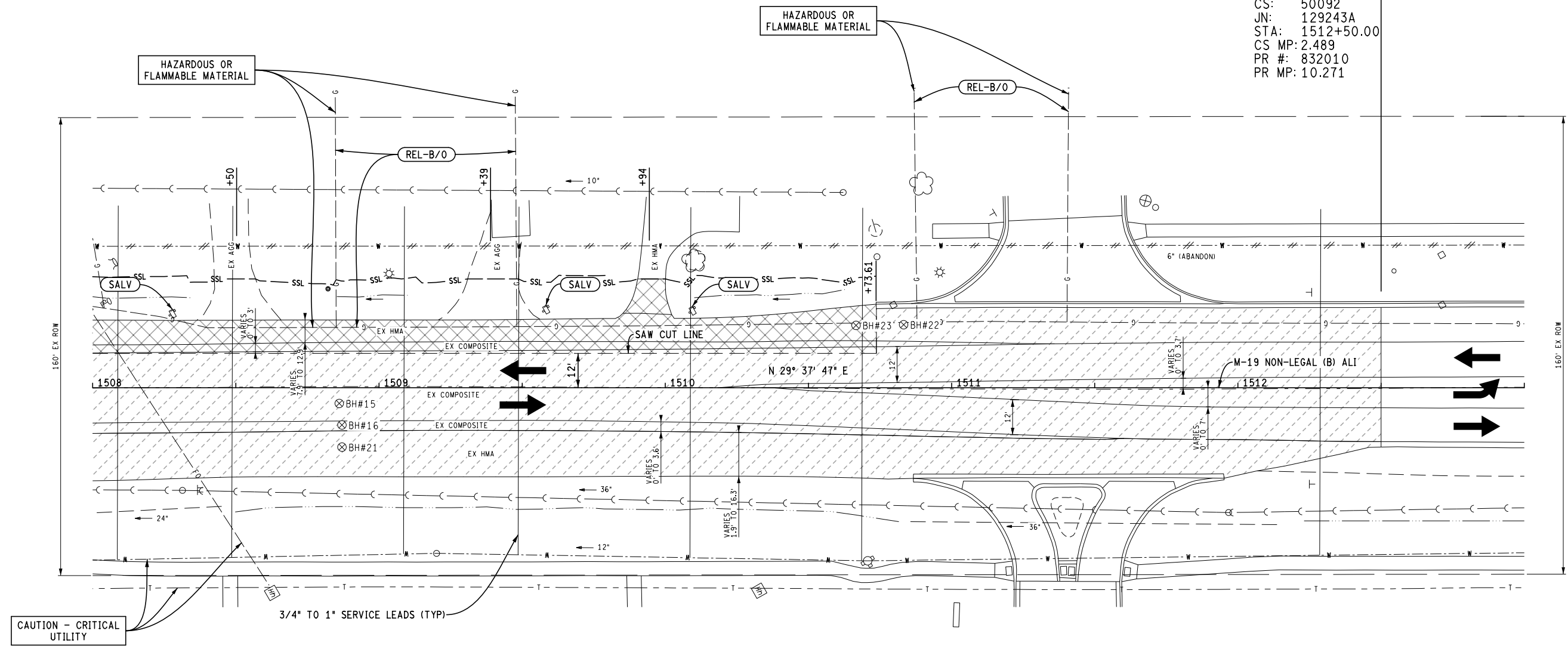
SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN



POE
CS: 50092
JN: 129243A
STA: 1512+50.00
CS MP: 2.489
PR #: 832010
PR MP: 10.271

M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)



CAUTION - CRITICAL UTILITY

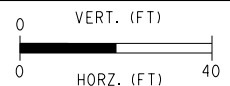
3/4" TO 1" SERVICE LEADS (TYP)

QUANTITIES THIS SHEET

JN 129243		
CAT 0001		
118	Syd	Pavt. Rem
551	Cyd	Excavation, Earth
396	Syd	HMA Surface, Rem
2431	Syd	Micro Cold Milling, HMA, 0 to 2 inches
3	Ea	Post, Mailbox

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN

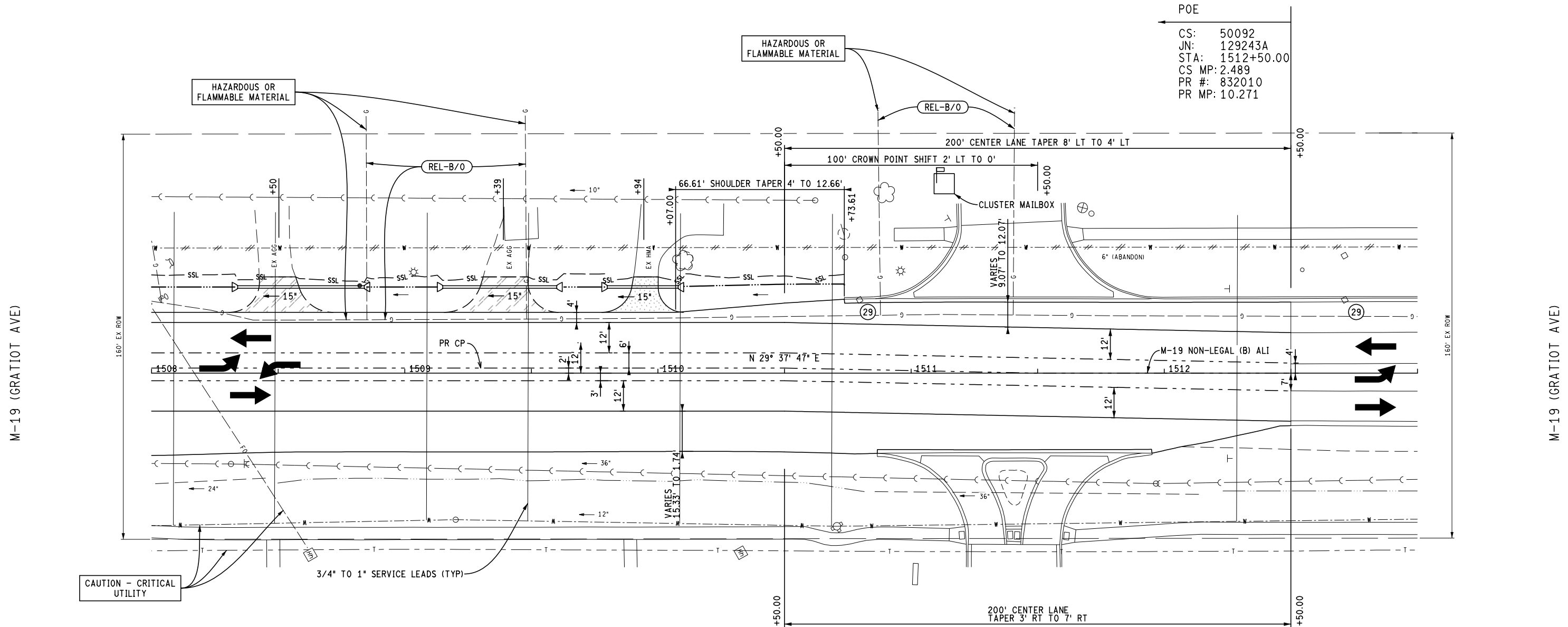
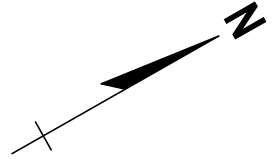
FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 04/19/17	CS: 50092
DESIGN UNIT: JAHAN	JN: 129243A
FILE: 129243_ALI_REM_CON_PVMK_003.dwg TSC: MACOMB	

REMOVAL SHEET		DRAWING	SHEET
M-19 STA 1508+00 TO STA 1512+50 POE		M-19 REM 006	SECT 1 36

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN



POE
CS: 50092
JN: 129243A
STA: 1512+50.00
CS MP: 2.489
PR #: 832010
PR MP: 10.271

M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)

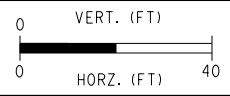
DRIVEWAY TABLE							Aggregate Base, 6 inch	Approach, CI II, 8 inch	Culv End Sect., 15 inch	Culv, CI F, 15 inch	HMA Approach
ALIGNMENT	STATION	BACK OF DRIVE OFFSET FROM ALI	PROPOSED DRIVEWAY SLOPE	PROPOSED DRIVEWAY WIDTH	PROPOSED ENTERING RADIUS	PROPOSED EXITING RADIUS	Syd	Syd	Ea	Ft	Ton
M-19 Non-Legal (B)	1508+50 LT	38.0	2.4%	14.5	14.0	12.0	--	32	2	50	--
M-19 Non-Legal (B)	1509+39 LT	38.0	-0.4%	17.8	12.0	15.0	--	37	2	45	--
M-19 Non-Legal (B)	1509+94 LT	38.0	-2.4%	9.8	10.0	12.0	22	--	2	28	6
TOTAL							22	69	6	123	6

QUANTITIES THIS SHEET

QTY	UNIT	DESCRIPTION
126	Cyd	Embankment, CIP
24	Ft	Erosion Control, Check Dam, Stone (37)
2	Ea	Erosion Control, Inlet Protection, Fabric Drop (29)
2	Ea	Erosion Control, Sediment Trap (29)
2184	Syd	Aggregate Base, 12 inch
238	Syd	Aggregate Base, 15 inch
62	Syd	Shoulder, CI II, 8 inch
275	Ft	Underdrain, Subbase, 6 inch
11	Ft	Underdrain Outlet, 6 inch
1	Ea	Underdrain, Outlet Ending, 6 inch
513	Ton	HMA Approach
1206	Syd	Turf Establishment, Performance

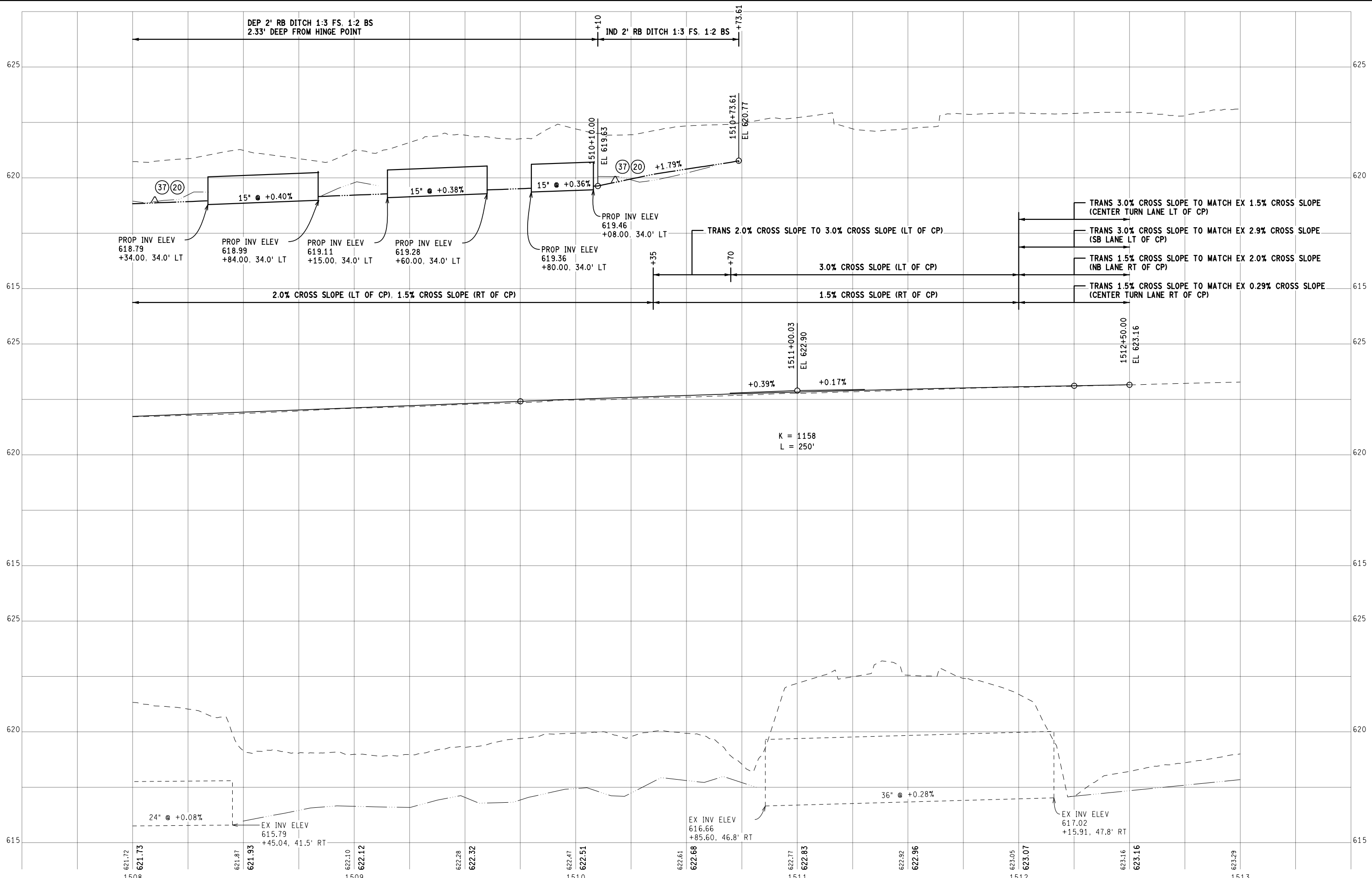
SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN

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



DATE: 04/19/17
DESIGN UNIT: JAHAN
CS: 50092
JN: 129243A
FILE: 129243_ALI_REM_CON_PVMK_003.dwg TSC: MACOMB

CONSTRUCTION SHEET
M-19 STA 1508+00 TO STA 1512+50 POE
DRAWING SHEET
M-19 CON 006 SECT 1 37



--- EX GROUND AT 50' LT
 - - - EX LT DITCH PROFILE
 - - - PROP LT DITCH PROFILE
 --- EX GROUND AT 50' RT
 - - - EX RT DITCH PROFILE
 --- EX GROUND AT M-19 NON-LEGAL (B) ALI
 - - - PLAN GRADE AT M-19 NON-LEGAL (B) ALI

FINAL ROW PLAN REVISIONS							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

(SUBMITTAL DATE:)
 1508 1509 1510 1511 1512 1513

0 VERT. (FT) 4
 0 HORZ. (FT) 40

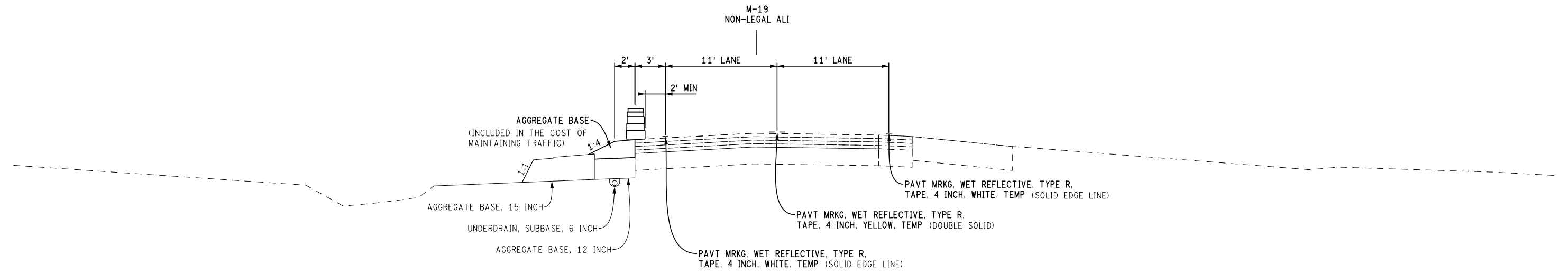
DATE: 04/19/17
 DESIGN UNIT: JAHAN
 TSC: MACOMB

CS: 50092
 JN: 129243A

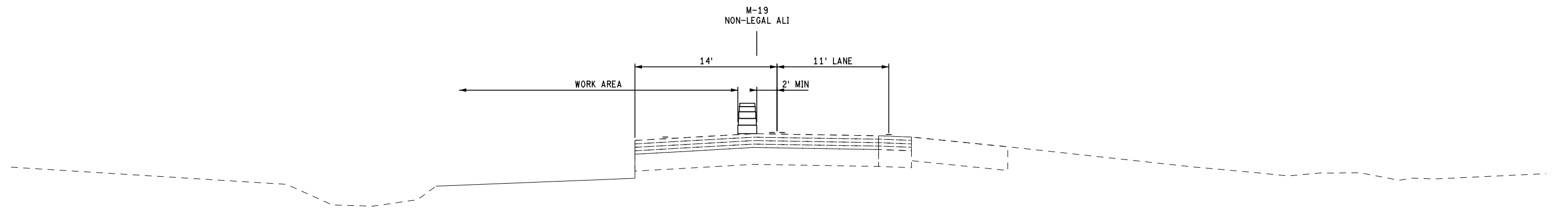
PROFILE SHEET
 M-19 STA 1508+00 TO STA 1512+50 POE

DRAWING SHEET
 M-19 PROF 006 SECT 1 38

FILE: 129243_PROFILE_003.dgn



PROPOSED MAINTAINING TRAFFIC TYPICAL
NON-WORKING HOURS

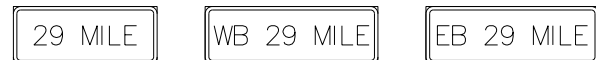


PROPOSED MAINTAINING TRAFFIC TYPICAL
WORKING HOURS

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE:)					NO SCALE	DATE: 04/19/17	CS: 50092	MAINTAINING TRAFFIC SHEET	DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION			DESIGN UNIT: JAHAN	JN: 116807A, 129243A		M-19	SECT 1
										TSC: MACOMB			MOT	
								FILE: 116807_MOT_TYPICAL.dgn			001	39		



W20-1 (48" X 48")



SPECIAL SIGN #1 SPECIAL SIGN #2 SPECIAL SIGN #3



W20-3A (48" X 48")



SPECIAL SIGN #1 SPECIAL SIGN #2 SPECIAL SIGN #3

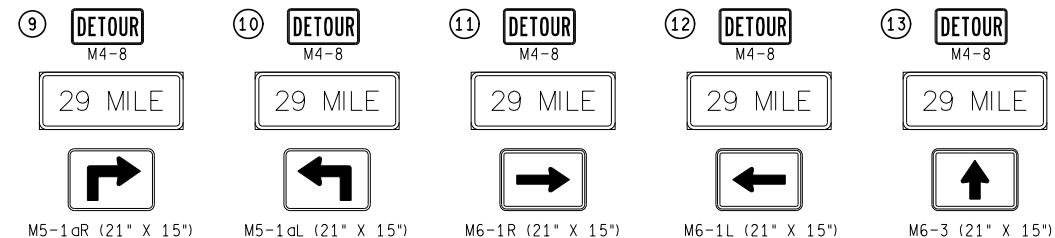


W20-2 (48" X 48")



R11-2 (48" X 30")

MOUNTED BEHIND TYPE III BARRICADE
ADDITIONAL TYPE III BARRICADE TO
CLOSE ROAD OFF EB AND WB



M4-8 (24" X 12")



SPECIAL SIGN #1

M5-1aR (21" X 15") M5-1aL (21" X 15") M6-1R (21" X 15") M6-1L (21" X 15") M6-3 (21" X 15")



R11-2 (48" X 30")



M4-8a (24" X 18")



1.5" Radius, 0.75" Border, Black on Orange:
[29 MILE] D:

SIGN, TYPE B TEMP, PRISMATIC, SPECIAL
30 inch by 12 inch

SPECIAL SIGN #1
TOTAL SIGNS = 12 EA



1.5" Radius, 0.75" Border, Black on Orange:
[WB 29 MILE] D:

SIGN, TYPE B TEMP, PRISMATIC, SPECIAL
36 inch by 12 inch

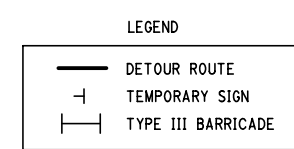
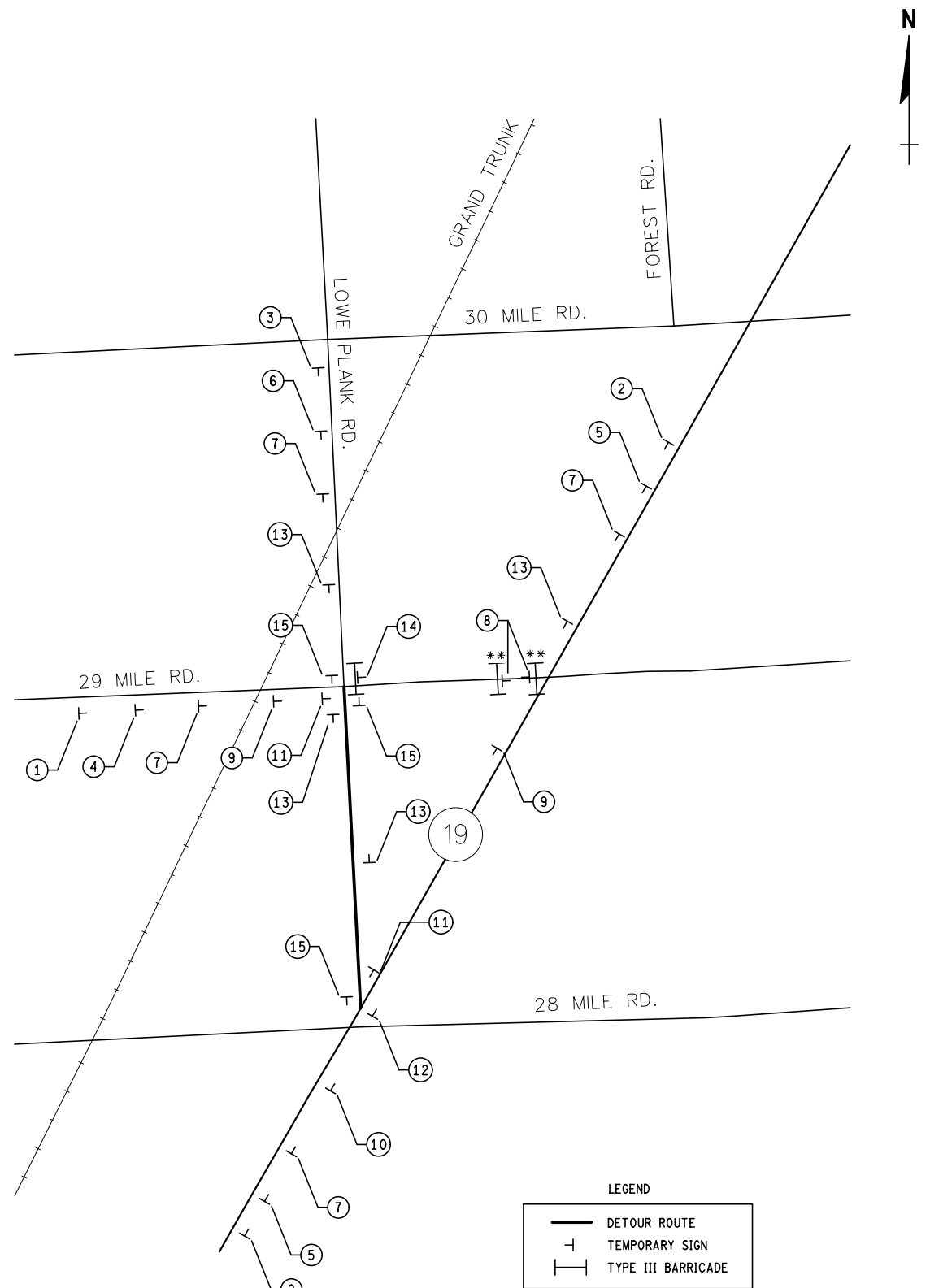
SPECIAL SIGN #2
TOTAL SIGNS = 4 EA



1.5" Radius, 0.75" Border, Black on Orange:
[EB 29 MILE] D:

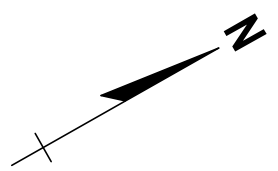
SIGN, TYPE B TEMP, PRISMATIC, SPECIAL
36 inch by 12 inch

SPECIAL SIGN #3
TOTAL SIGNS = 2 EA



** USE SUFFICIENT TYPE III BARRICADES TO COMPLETELY CLOSE OFF ROADWAY

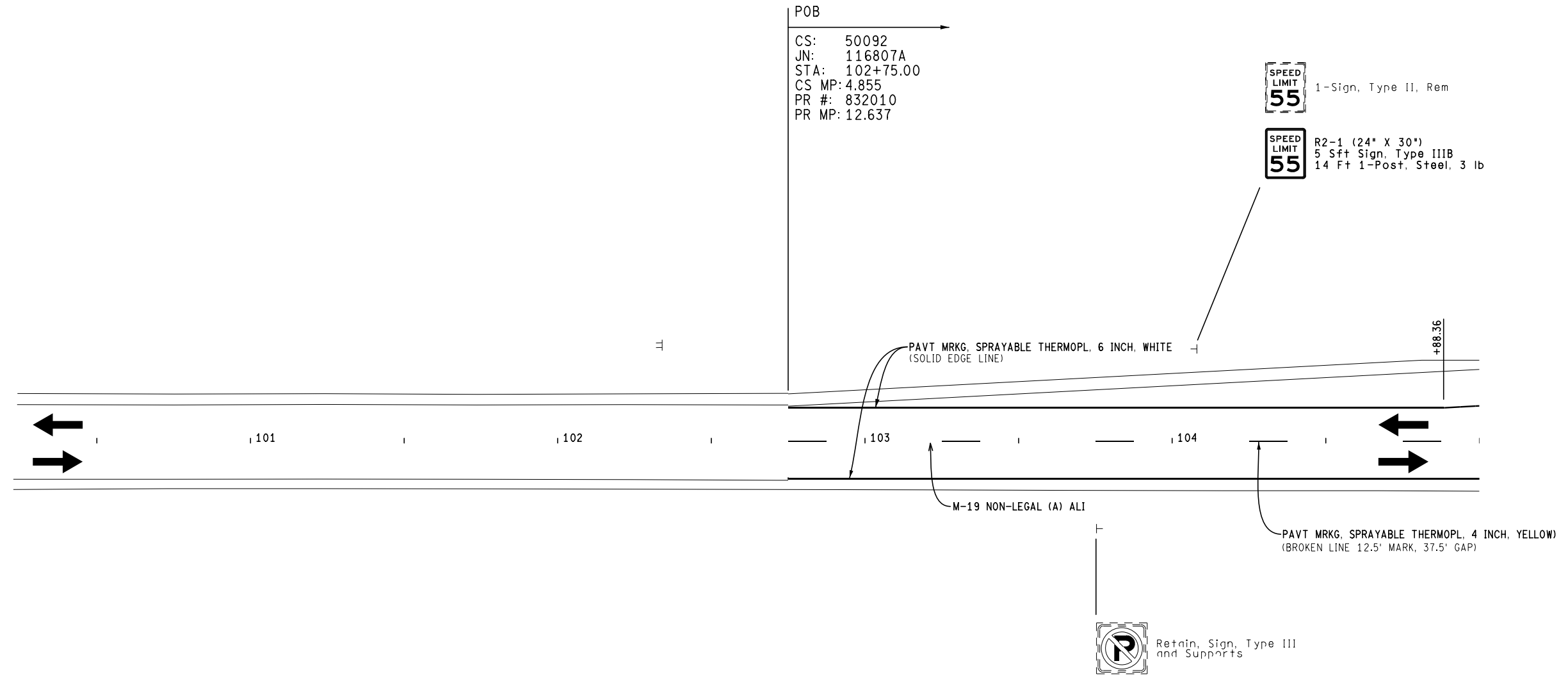
FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)								MDOT Michigan Department of Transportation		NO SCALE		DATE: 04/19/17		CS: 50092		MAINTAINING TRAFFIC SHEET		DRAWING SHEET	
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION			DESIGN UNIT: JAHAN		JN: 116807A				M-19 MOT 002		SECT 1 40	
								FILE: 116807_DETOUT.dgn		TSC: MACOMB									



SECTION 23
T.4N, R.14E
LENOX TWP

POB
CS: 50092
JN: 116807A
STA: 102+75.00
CS MP: 4.855
PR #: 832010
PR MP: 12.637

SPEED LIMIT 55 1-Sign, Type II, Rem
SPEED LIMIT 55 R2-1 (24" X 30")
5 Sft Sign, Type IIIB
14 Ft 1-Post, Steel, 3 lb

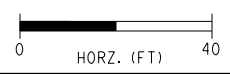


QUANTITIES THIS SHEET

JN 116807			
CAT 0001			
14	Ft	Post, Steel, 3 lb	
1	Ea	Sign, Type III, Rem	
5	Sft	Sign, Type IIIB	
63	Ft	Pavt Mrkg, Sprayable Thermoapl, 4 inch, Yellow	
450	Ft	Pavt Mrkg, Sprayable Thermoapl, 6 inch, White	

SECTION 23
T.4N, R.14E
LENOX TWP

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

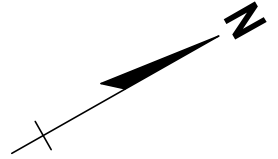


DATE: 04/19/17	CS: 50092	PERMANENT PAVEMENT MARKING & SIGNING SHEET	DRAWING	SHEET
DESIGN UNIT: JAHAN	JN: 116807A	M-19 STA 102+75.00 POB TO STA 105+00	M-19	SECT 1
FILE: 116807_ALI_REM_CON_PVMK_001.dgn	CS: MACOMB		PVMK	42
			001	

29 MILE RD

SECTION 23
T.4N, R.14E
LENOX TWP

SECTION 14
T.4N, R.14E
LENOX TWP



1-Sign, Type III, Rem



M3-3 (24" X 12")
2 Sft Sign, Type IIIB



1-Sign, Type III, Rem



M1-6 (24")
4 Sft Sign, Type IIIB
14 Ft 1-Post, Steel, 3 lb



1-Sign, Type III, Rem



R8-3 (12")
1 Sft Sign, Type IIIB



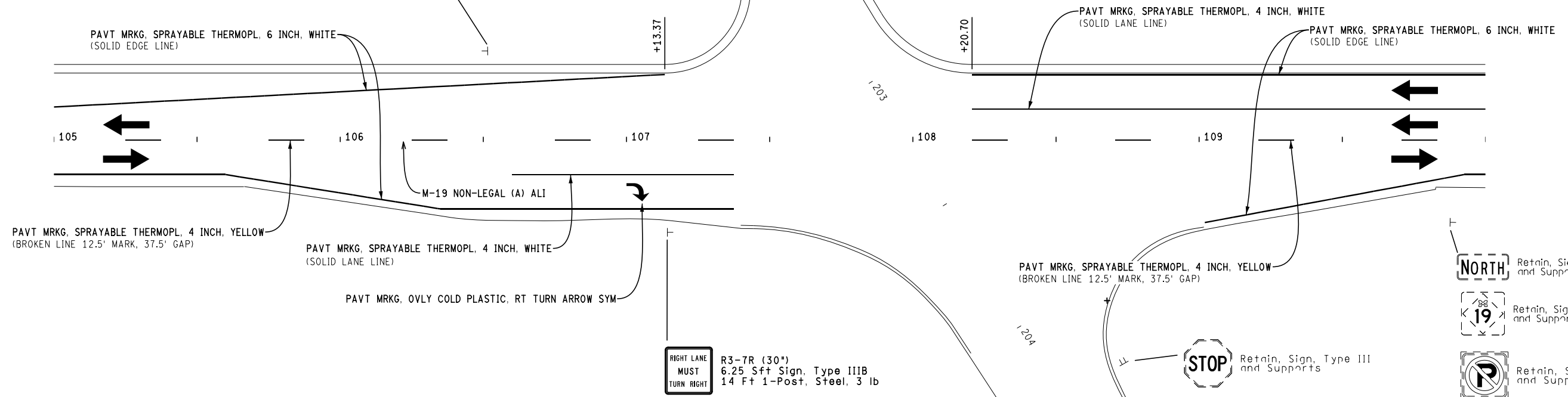
1-Sign, Type III, Rem



R1-1 (36")
9 Sft Sign, Type IIIA
28 Ft 2-Post, Steel, 3 lb

M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)



Retain, Sign, Type III and Supports



Retain, Sign, Type III and Supports



Retain, Sign, Type III and Supports

SECTION 14
T.4N, R.14E
LENOX TWP

SECTION 23
T.4N, R.14E
LENOX TWP

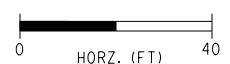
QUANTITIES THIS SHEET

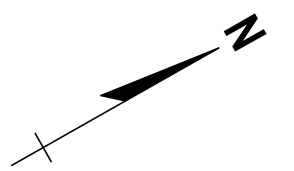
JN 116807
CAT 0001

56	Ft	Post, Steel, 3 lb
4	Ea	Sign, Type III, Rem
9	Sft	Sign, Type IIIA
14	Sft	Sign, Type IIIB
1	Ea	Pavt Mrkg, Ovly Cold Plastic, Rt Turn Arrow Sym
258	Ft	Pavt Mrkg, Sprayable Thermo. 4 inch, White
63	Ft	Pavt Mrkg, Sprayable Thermo. 4 inch, Yellow
729	Ft	Pavt Mrkg, Sprayable Thermo. 6 inch, White

29 MILE RD

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)								DATE: 04/19/17		CS: 50092		PERMANENT PAVEMENT MARKING & SIGNING SHEET		DRAWING SHEET	
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	DESIGN UNIT: JAHAN	JN: 116807A	M-19 STA 105+00 TO STA 110+00		M-19 PVMK 002	SECT 1		
								FILE: 116807_ALI_REM_CON_PVMK_002.dgn	TSC: MACOMB				43		



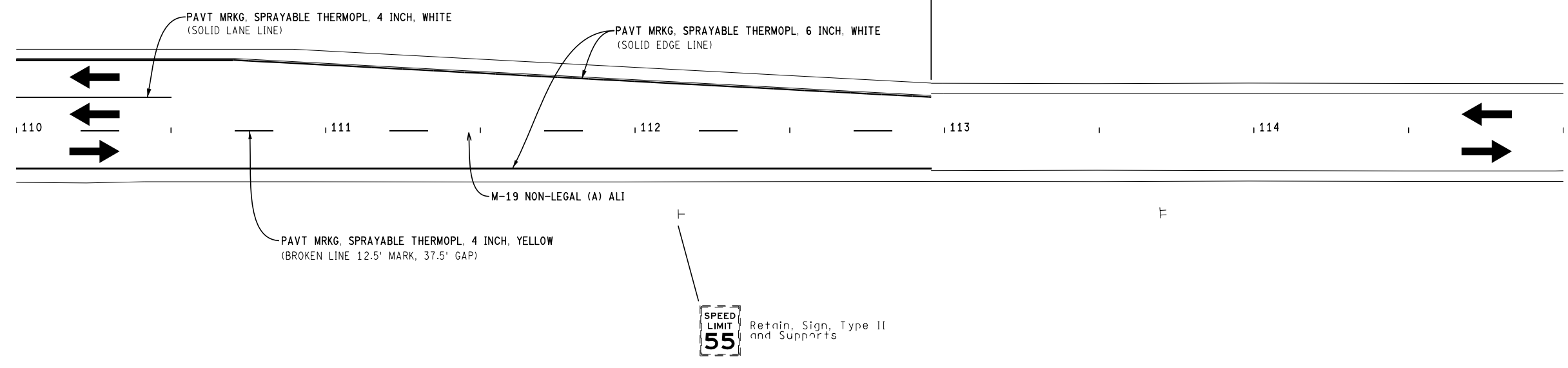


SECTION 14
T.4N. R.14E
LENOX TWP

POE
CS: 50092
JN: 116807A
STA: 112+95.70
CS MP: 5.048
PR #: 832010
PR MP: 12.830

M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)

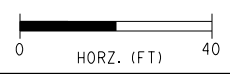


QUANTITIES THIS SHEET

JN 116807		CAT 0001	
50	Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, White	
75	Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow	
592	Ft	Pavt Mrkg, Sprayable Thermopl, 6 inch, White	

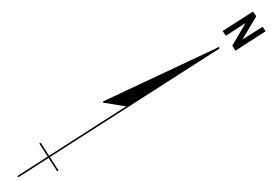
SECTION 14
T.4N. R.14E
LENOX TWP

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



DATE: 04/19/17	CS: 50092	PERMANENT PAVEMENT MARKING & SIGNING SHEET	DRAWING	SHEET
DESIGN UNIT: JAHAN	JN: 116807A	M-19 STA 110+00 TO STA 112+95.70 POE	M-19	SECT 1
FILE: 116807_ALI_REM_CON_PVMK_003.dgn	SC: MACOMB		PVMK	44
			003	

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN



POB
CS: 50092
JN: 129243A
STA: 1499+00.00
CS MP: 2.233
PR #: 832010
PR MP: 10.015

1-Sign, Type III, Rem
CLAWSON 1-Sign, Type III, Rem
1-Sign, Type III, Rem

W2-2R (36")
9 Sft Sign, Type IIIB
30 Ft 2-Post, Steel, 3 lb
CLAWSON W16-8P (36" X 12")
3 Sft Sign, Type IIIB
R8-3 (12")
1 Sft Sign, Type IIIB

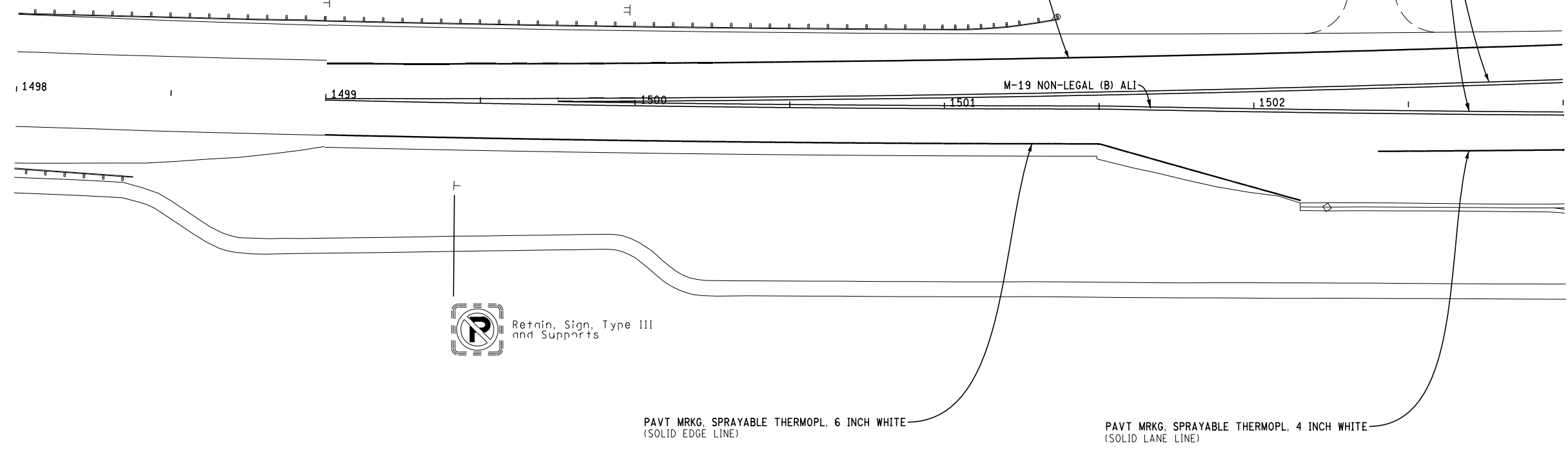
PASS WITH CARE R4-2 (24" X 30")
5 Sft Sign, Type IIIB
14 Ft 1-Post, Steel, 3 lb

PAVT MRKG, SPRAYABLE THERMOPL, 4 INCH YELLOW
(DOUBLE SOLID LINE)

PAVT MRKG, SPRAYABLE THERMOPL, 6 INCH WHITE
(SOLID EDGE LINE)

M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)



Retain, Sign, Type III
and Supports

PAVT MRKG, SPRAYABLE THERMOPL, 6 INCH WHITE
(SOLID EDGE LINE)

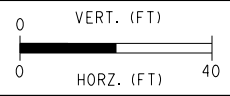
PAVT MRKG, SPRAYABLE THERMOPL, 4 INCH WHITE
(SOLID LANE LINE)

QUANTITIES THIS SHEET

JN 129243			
CAT 0001			
44	Ft	Post, Steel, 3 lb	
3	Ea	Sign, Type III, Rem	
18	Sft	Sign, Type IIIB	
60	Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, White	
1450	Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow	
718	Ft	Pavt Mrkg, Sprayable Thermopl, 6 inch, White	

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN

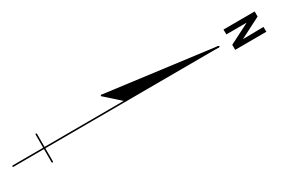
FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE:)			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 04/19/17
DESIGN UNIT: JAHAN
CS: 50092
JN: 129243A
FILE: 129243_ALI_REM_CON_PVMK_001.dwg

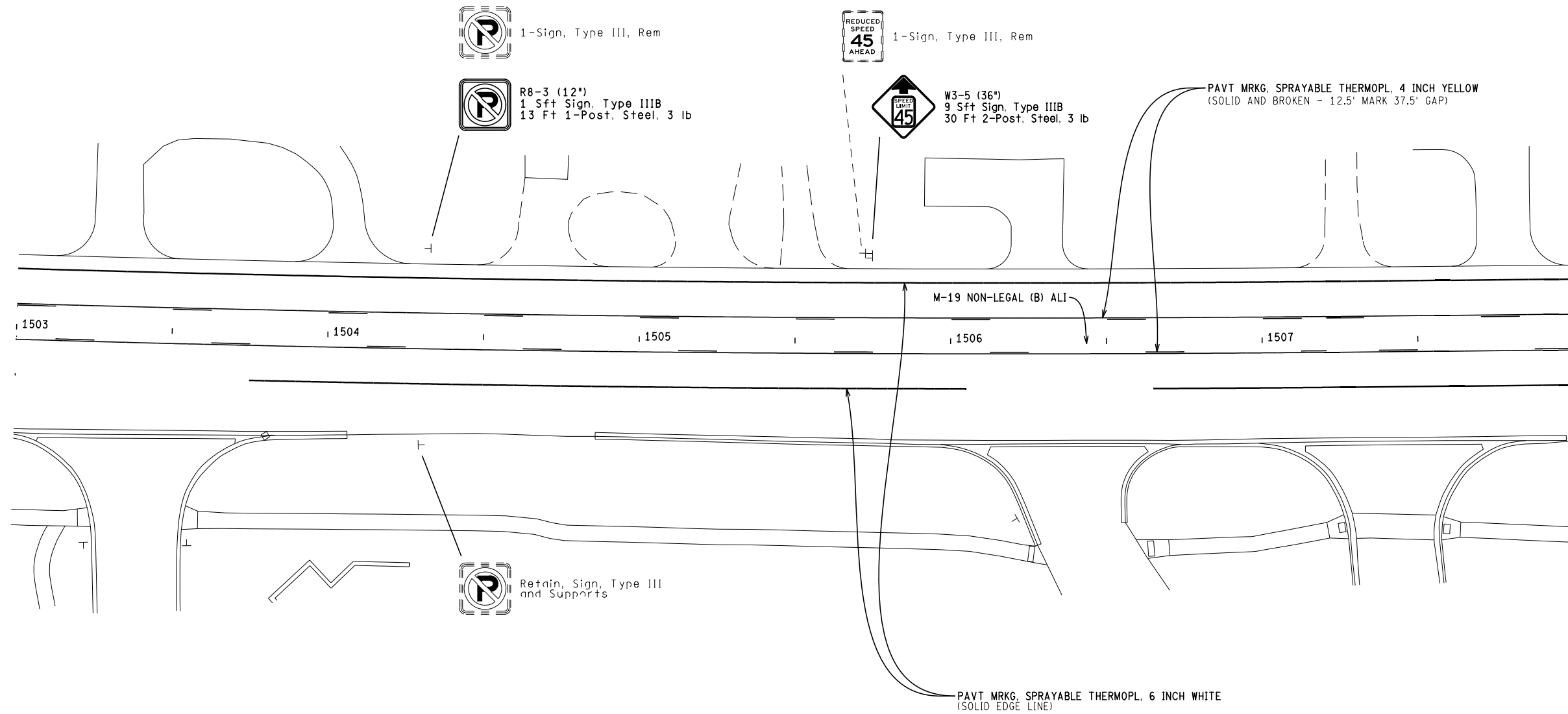
PERMANENT PAVEMENT MARKING & SIGNING SHEET		DRAWING	SHEET
M-19 STA 1499+00 POB TO STA 1503+00		M-19 PVMK 004	SECT 1 45

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN



M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)



ARLINGTON DRIVE

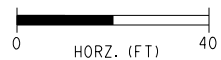
JAMES CURTIN DRIVE

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN

QUANTITIES THIS SHEET

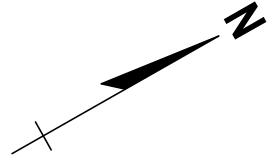
JN 129243			
CAT 0001			
43	Ft	Post, Steel, 3 lb	
2	Ea	Sign, Type III, Rem	
10	Sft	Sign, Type IIIB	
1250	Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow	
865	Ft	Pavt Mrkg, Sprayable Thermopl, 6 inch, White	


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





DATE: 04/19/17	CS: 50092	PERMANENT PAVEMENT MARKING & SIGNING SHEET	DRAWING	SHEET
DESIGN UNIT: JAHAN	JN: 129243A	M-19 STA 1503+00 TO STA 1508+00	M-19	SECT 1
FILE: 129243_ALI_REM_CON_PVMK_002.dgn	TSC: MACOMB		PVMK	46
			005	

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN




 1-Sign, Type III, Rem

 1-Sign, Type III, Rem

 R8-3 (12")
1 Sft Sign, Type IIIB
13 Ft 1-Post, Steel, 3 lb

POE
CS: 50092
JN: 129243A
STA: 1512+50.00
CS MP: 2.489
PR #: 832010
PR MP: 10.271

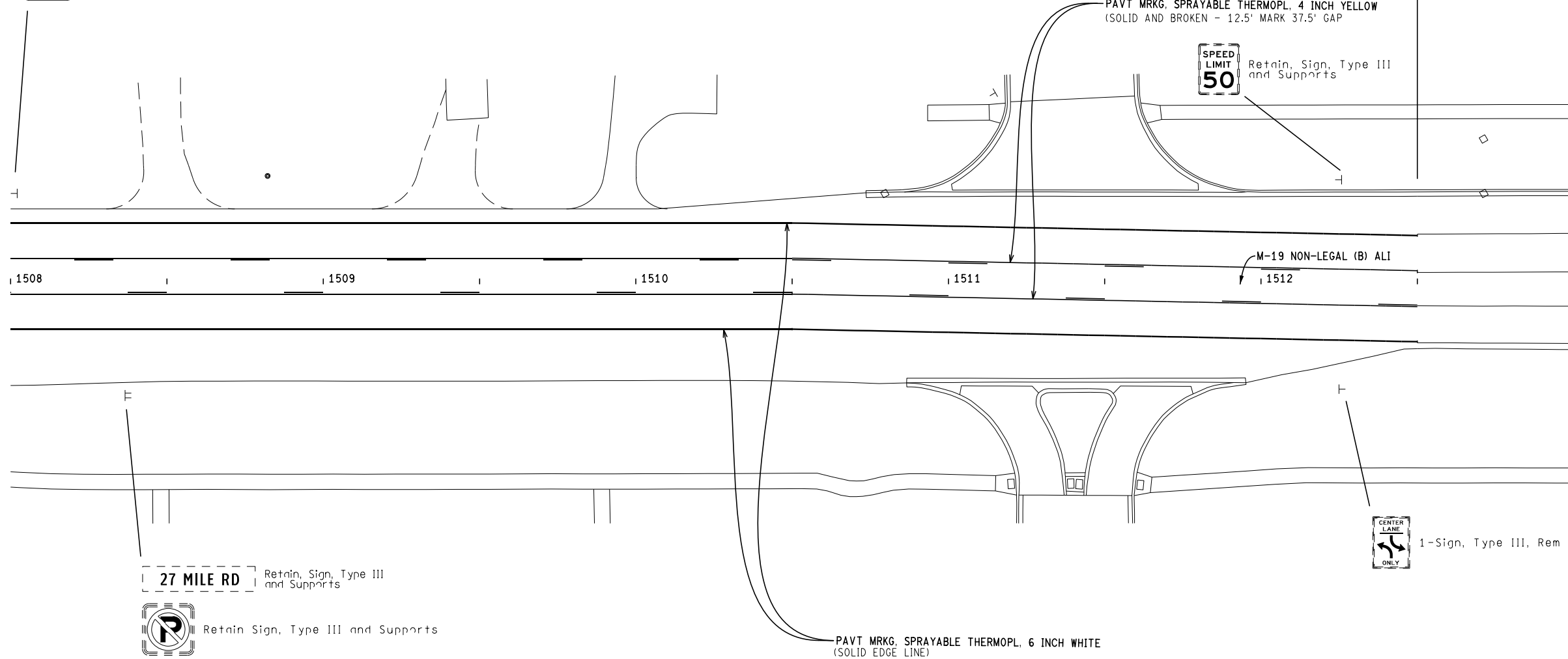
PAVT MRKG, SPRAYABLE THERMOPL, 4 INCH YELLOW
(SOLID AND BROKEN - 12.5' MARK 37.5' GAP)



 Retain, Sign, Type III and Supports


Retain, Sign, Type III and Supports

M-19 (GRATIOT AVE)

M-19 (GRATIOT AVE)



 27 MILE RD Retain, Sign, Type III and Supports
 Retain Sign, Type III and Supports

 1-Sign, Type III, Rem

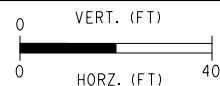
PAVT MRKG, SPRAYABLE THERMOPL, 6 INCH WHITE
(SOLID EDGE LINE)

QUANTITIES THIS SHEET

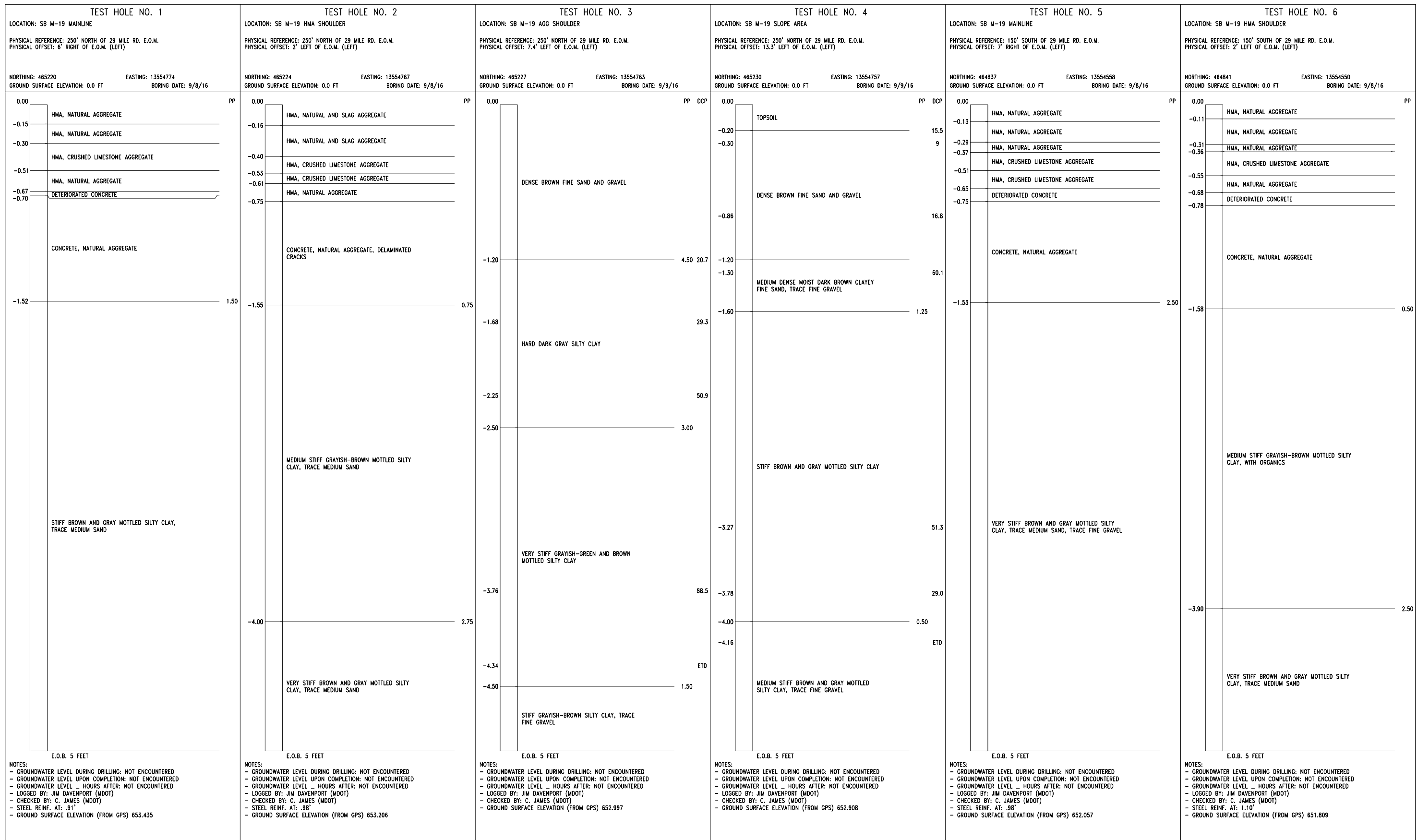
JN 129243		CAT 0001	
13	Ft	Post, Steel, 3 lb	
3	Ea	Sign, Type III, Rem	
1	Sft	Sign, Type IIIB	
1125	Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow	
900	Ft	Pavt Mrkg, Sprayable Thermopl, 6 inch, White	

SECTION 34
T4N, R14E
VILLAGE OF NEW HAVEN

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



DATE: 04/19/17	CS: 50092	PERMANENT PAVEMENT MARKING & SIGNING SHEET	DRAWING	SHEET
DESIGN UNIT: JAHAN	JN: 129243A	M-19 STA 1508+00 TO STA 1512+50 POE	M-19 PVMK 006	SECT 1 47
FILE: 129243_ALI_REM_CON_PVMK_003.dgn	TSC: MACOMB			



NOTES:
 - GROUNDWATER LEVEL DURING DRILLING: NOT ENCOUNTERED
 - GROUNDWATER LEVEL UPON COMPLETION: NOT ENCOUNTERED
 - GROUNDWATER LEVEL _ HOURS AFTER: NOT ENCOUNTERED
 - LOGGED BY: JIM DAVENPORT (MDOT)
 - CHECKED BY: C. JAMES (MDOT)
 - STEEL REINF. AT: .91'
 - GROUND SURFACE ELEVATION (FROM GPS) 653.435

PP = POCKET PENETROMETER, UNCONFINED COMPRESSIVE STRENGTH - TONS/SQ.FT (TSF)
 UCS = LAB DETERMINED UNCONFINED COMPRESSIVE STRENGTH - TONS/SQ.FT (TSF)
 TV = TORVANE SHEAR TEST, SHEAR STRENGTH - TONS/SQ.FT (TSF)
 MC = MOISTURE CONTENT - (%)
 DD = DRY DENSITY - LBS/CU.FT (PCF)
 DCP = DYNAMIC CONE PENETRATION - (MM/BLOW)

THE DCP INDEX IS REPORTED AT DEPTHS EXHIBITING DISTINCT CHANGES IN SLOPE ON A PLOT OF CUMULATIVE PENETRATION VS. NUMBER OF BLOWS. EACH DCP INDEX REPRESENTS THE AVERAGE PENETRATION PER BLOW FOR THE SOIL BELOW THAT POINT. "ETD" = END TEST DEPTH.

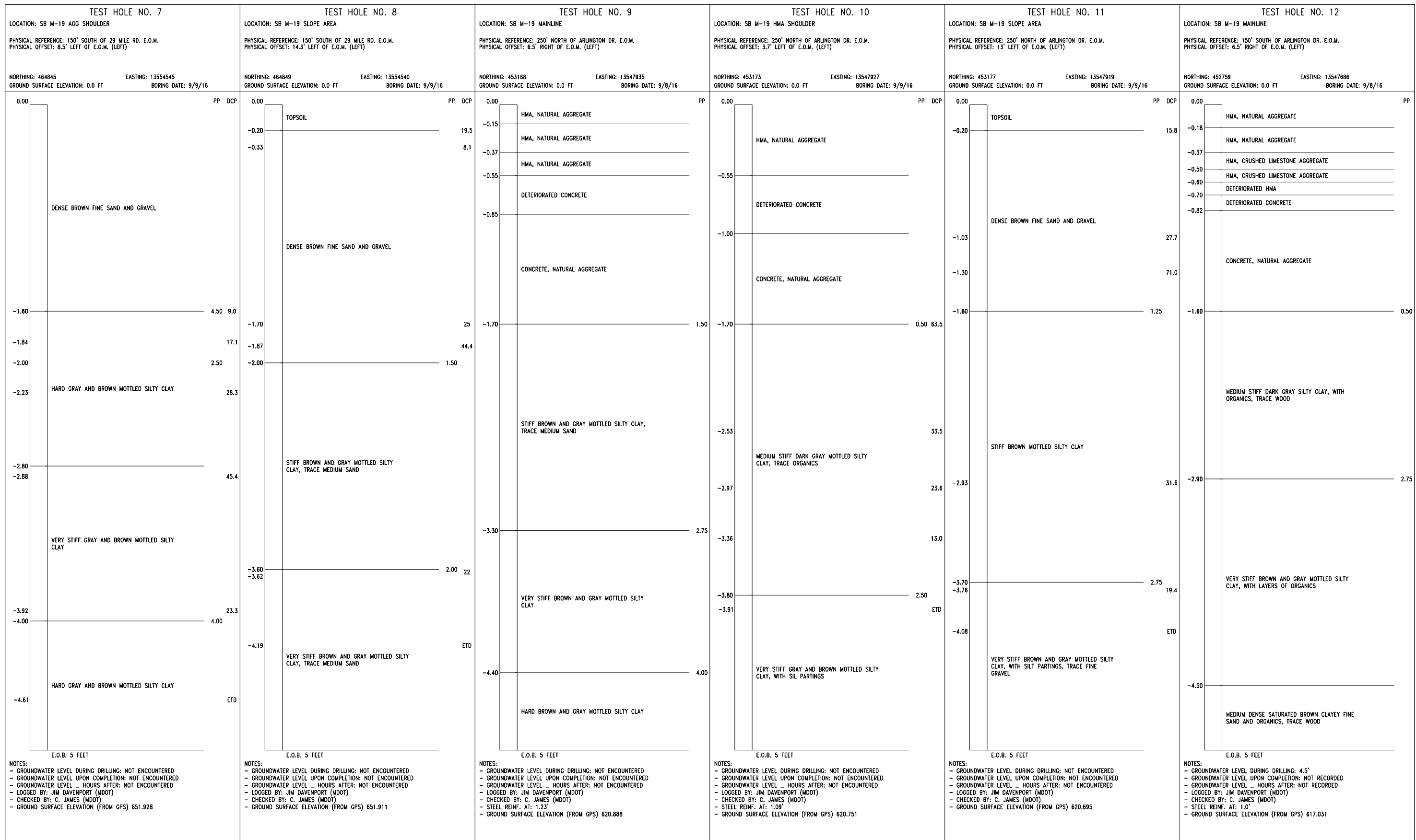
CONSISTENCY DETERMINED BY INSPECTION OF SAMPLES AND BY SOIL RESISTANCE TO PENETRATION BY JET ROD AND CASING OR AUGER. UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) GROUP SYMBOL DETERMINED PER (ASTM) VISUAL-MANUAL PROCEDURES.

GROUNDWATER LEVELS REPRESENT THE CONDITIONS AT THE TIME THE MEASUREMENTS WERE OBTAINED AND SHOULD BE EXPECTED TO FLUCTUATE THROUGHOUT THE YEAR. GROUNDWATER LEVELS MAY ALSO BE INFLUENCED BY RESIDUAL BORING WATER.

THE SOIL BORING LOGS REPRESENT POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY IMPLIES THAT THE SUBSURFACE CONDITIONS ARE THE SAME AT LOCATIONS OTHER THAN THE EXACT LOCATION OF THE BORING.

"PHYSICAL REFERENCE" AND "PHYSICAL OFFSET" ARE BASED ON EXISTING FEATURES AS OF THE "BORING DATE".

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)						MDOT Michigan Department of Transportation		NO SCALE		DATE: 04/19/17	CS: 50092	SOIL BORING SHEET		DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION			DESIGN UNIT: JAHAN	JN: 116807A, 129243A			M-19 BORING 001	SECT 1 48
										TSC: MACOMB					



NOTES:
 - GROUNDWATER LEVEL DURING DRILLING: NOT ENCOUNTERED
 - GROUNDWATER LEVEL UPON COMPLETION: NOT ENCOUNTERED
 - GROUNDWATER LEVEL _ HOURS AFTER: NOT ENCOUNTERED
 - LOGGED BY: JIM DAVENPORT (MDOT)
 - CHECKED BY: C. JAMES (MDOT)
 - GROUND SURFACE ELEVATION (FROM GPS) 651.928

PP = POCKET PENETROMETER, UNCONFINED COMPRESSIVE STRENGTH - TONS/SQ.FT (TSF)
 UCS = LAB DETERMINED UNCONFINED COMPRESSIVE STRENGTH - TONS/SQ.FT (TSF)
 TV = TORVANE SHEAR TEST, SHEAR STRENGTH - TONS/SQ.FT (TSF)
 MC = MOISTURE CONTENT - (%)
 DD = DRY DENSITY - LBS/CU.FT (PCF)
 DCP = DYNAMIC CONE PENETRATION - (MM/BLOW)

THE DCP INDEX IS REPORTED AT DEPTHS EXHIBITING DISTINCT CHANGES IN SLOPE ON A PLOT OF CUMULATIVE PENETRATION VS. NUMBER OF BLOWS. EACH DCP INDEX REPRESENTS THE AVERAGE PENETRATION PER BLOW FOR THE SOIL BELOW THAT POINT. "ETD" = END TEST DEPTH.

CONSISTENCY DETERMINED BY INSPECTION OF SAMPLES AND BY SOIL RESISTANCE TO PENETRATION BY JET ROD AND CASING OR AUGER. UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) GROUP SYMBOL DETERMINED PER (ASTM) VISUAL-MANUAL PROCEDURES.

GROUNDWATER LEVELS REPRESENT THE CONDITIONS AT THE TIME THE MEASUREMENTS WERE OBTAINED AND SHOULD BE EXPECTED TO FLUCTUATE THROUGHOUT THE YEAR. GROUNDWATER LEVELS MAY ALSO BE INFLUENCED BY RESIDUAL BORING WATER.

THE SOIL BORING LOGS REPRESENT POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY IMPLIES THAT THE SUBSURFACE CONDITIONS ARE THE SAME AT LOCATIONS OTHER THAN THE EXACT LOCATION OF THE BORING.

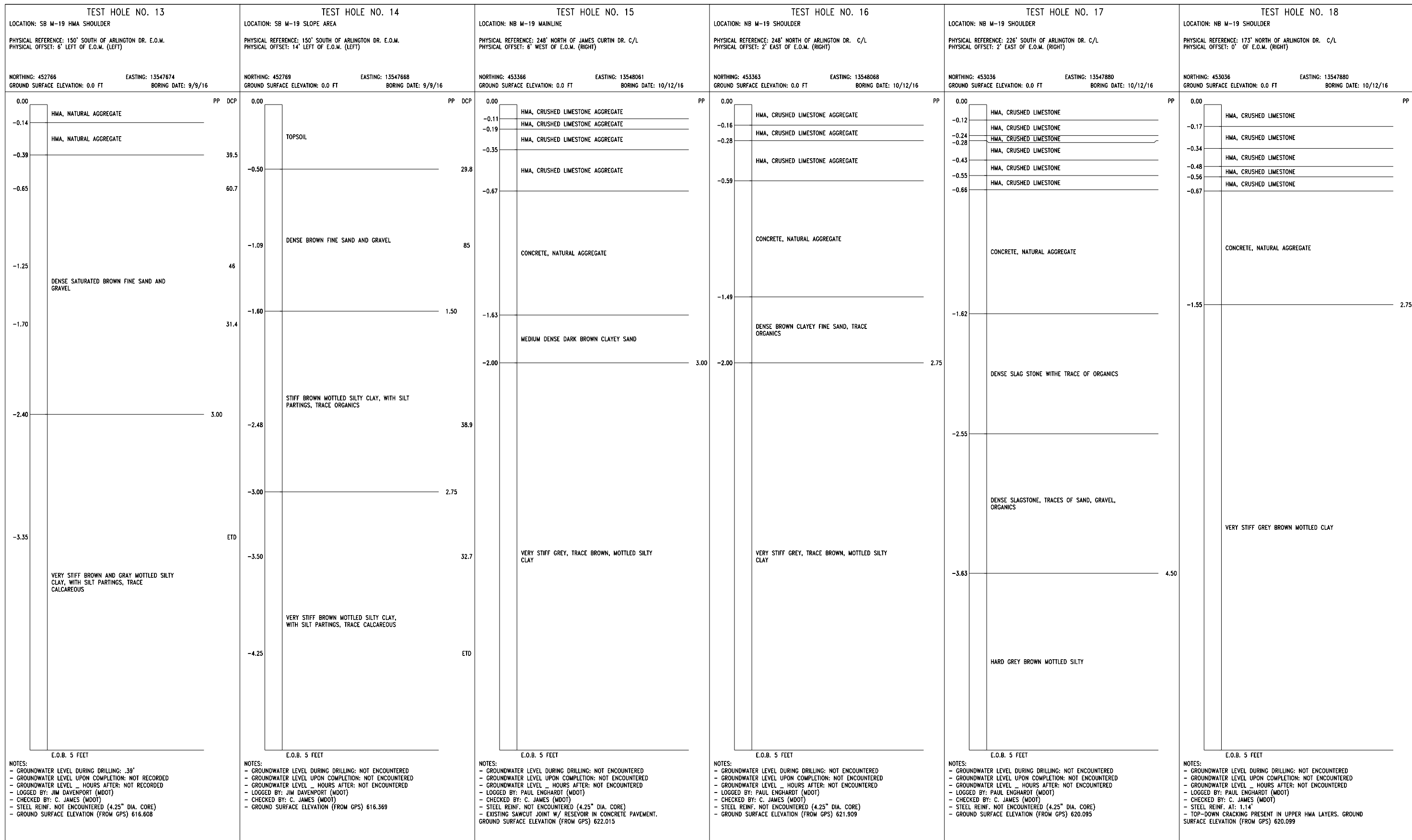
"PHYSICAL REFERENCE" AND "PHYSICAL OFFSET" ARE BASED ON EXISTING FEATURES AS OF THE "BORING DATE".

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)								DATE: 04/19/17		CS: 50092		SOIL BORING SHEET		DRAWING SHEET	
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	DESIGN UNIT: JAHAN		JN: 116807A, 129243A		M-19 BORING 002		SECT 1	
								TSC: MACOMB						49	



NO SCALE

FILE: 116807_129243_SoilBoring_2.dgn



NOTES:
 - GROUNDWATER LEVEL DURING DRILLING: .39'
 - GROUNDWATER LEVEL UPON COMPLETION: NOT RECORDED
 - GROUNDWATER LEVEL _ HOURS AFTER: NOT RECORDED
 - LOGGED BY: JIM DAVENPORT (MDOT)
 - CHECKED BY: C. JAMES (MDOT)
 - STEEL REINF. NOT ENCOUNTERED (4.25" DIA. CORE)
 - GROUND SURFACE ELEVATION (FROM GPS) 616.608

PP = POCKET PENETROMETER, UNCONFINED COMPRESSIVE STRENGTH - TONS/SQ.FT (TSF)
 UCS = LAB DETERMINED UNCONFINED COMPRESSIVE STRENGTH - TONS/SQ.FT (TSF)
 TV = TORVANE SHEAR TEST, SHEAR STRENGTH - TONS/SQ.FT (TSF)
 MC = MOISTURE CONTENT - (%)
 DD = DRY DENSITY - LBS/CU.FT (PCF)
 DCP = DYNAMIC CONE PENETRATION - (MM/BLOW)

THE DCP INDEX IS REPORTED AT DEPTHS EXHIBITING DISTINCT CHANGES IN SLOPE ON A PLOT OF CUMULATIVE PENETRATION VS. NUMBER OF BLOWS. EACH DCP INDEX REPRESENTS THE AVERAGE PENETRATION PER BLOW FOR THE SOIL BELOW THAT POINT. "ETD" = END TEST DEPTH.

CONSISTENCY DETERMINED BY INSPECTION OF SAMPLES AND BY SOIL RESISTANCE TO PENETRATION BY JET ROD AND CASING OR AUGER. UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) GROUP SYMBOL DETERMINED PER (ASTM) VISUAL-MANUAL PROCEDURES.

GROUNDWATER LEVELS REPRESENT THE CONDITIONS AT THE TIME THE MEASUREMENTS WERE OBTAINED AND SHOULD BE EXPECTED TO FLUCTUATE THROUGHOUT THE YEAR. GROUNDWATER LEVELS MAY ALSO BE INFLUENCED BY RESIDUAL BORING WATER.

THE SOIL BORING LOGS REPRESENT POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY IMPLIES THAT THE SUBSURFACE CONDITIONS ARE THE SAME AT LOCATIONS OTHER THAN THE EXACT LOCATION OF THE BORING.

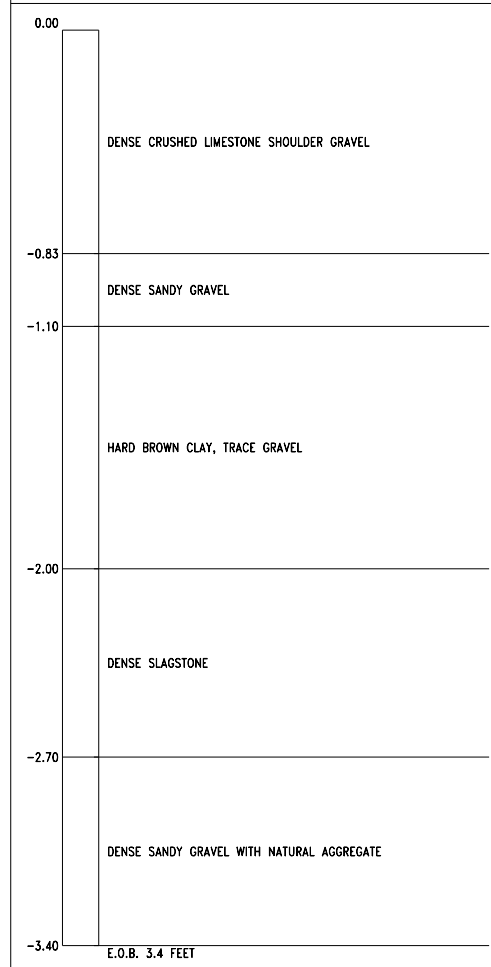
"PHYSICAL REFERENCE" AND "PHYSICAL OFFSET" ARE BASED ON EXISTING FEATURES AS OF THE "BORING DATE".

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)								DATE: 04/19/17		CS: 50092		SOIL BORING SHEET		DRAWING SHEET	
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	DESIGN UNIT: JAHAN		JN: 116807A, 129243A		M-19 BORING 003		SECT 1 50	
								TSC: MACOMB		FILE: 116807_129243_SoilBoring_3.dgn					



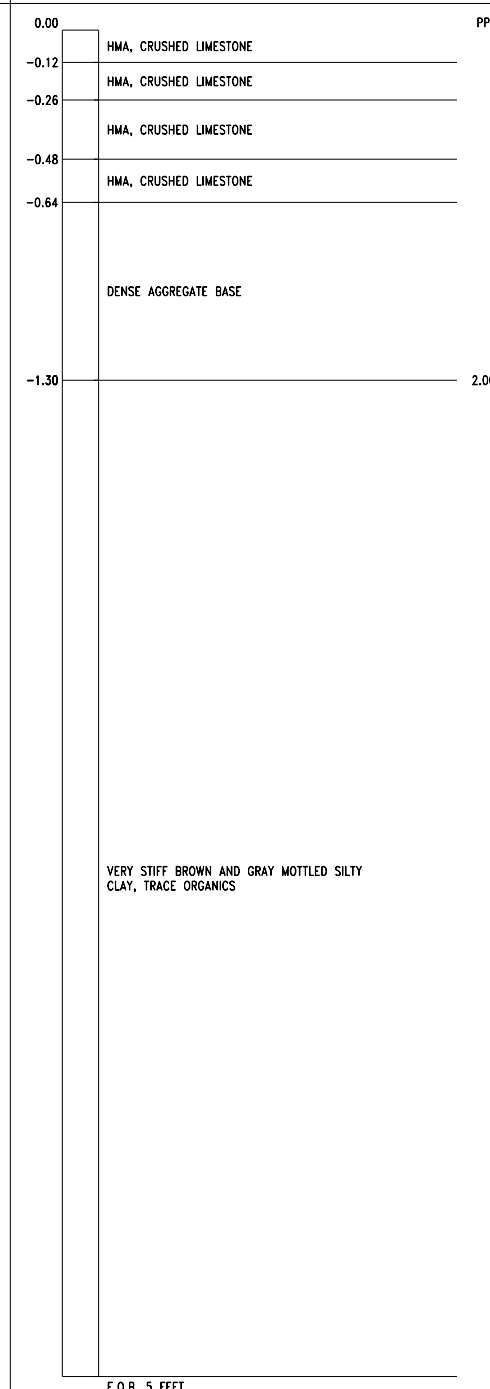
NO SCALE

TEST HOLE NO. 19
 LOCATION: NB M-19 AGG SHOULDER
 PHYSICAL REFERENCE: 226' SOUTH OF ARLINGTON DR. C/L
 PHYSICAL OFFSET: 4' EAST OF E.O.M. (RIGHT)
 NORTHING: 452694 EASTING: 13547675
 GROUND SURFACE ELEVATION: 0.0 FT BORING DATE: 10/12/16



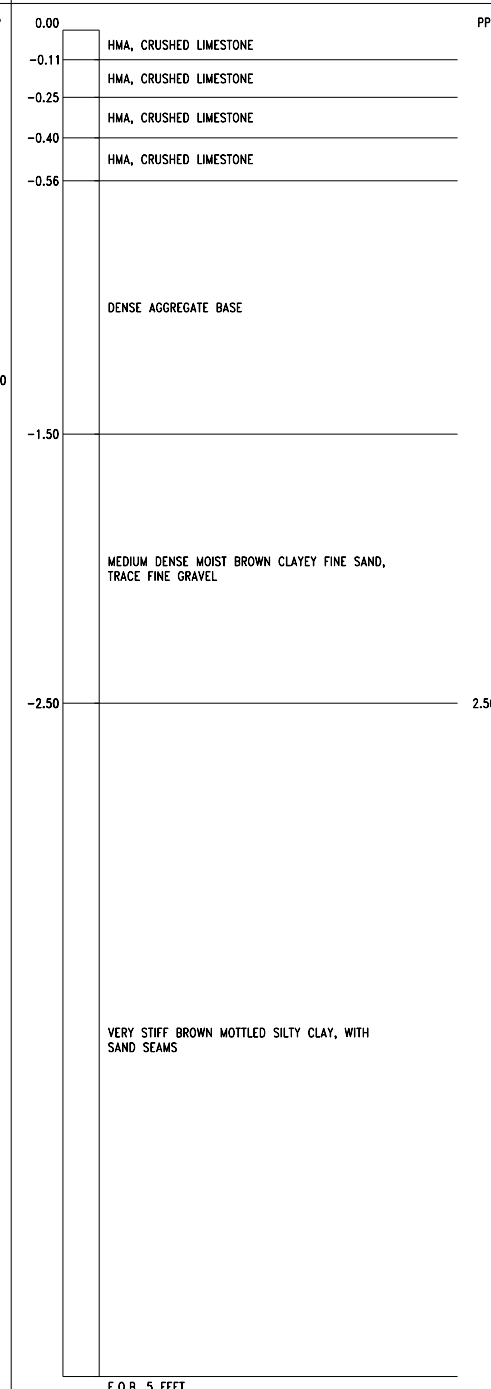
NOTES:
 - GROUNDWATER LEVEL DURING DRILLING: NOT ENCOUNTERED
 - GROUNDWATER LEVEL UPON COMPLETION: NOT ENCOUNTERED
 - GROUNDWATER LEVEL _ HOURS AFTER: NOT ENCOUNTERED
 - LOGGED BY: PAUL ENGHARDT (MDOIT)
 - CHECKED BY: C. JAMES (MDOIT)
 - STEEL REINF. NOT ENCOUNTERED (4.25" DIA. CORE)
 - REFUSAL (POSSIBLE BOULDER) GROUND SURFACE ELEVATION (FROM GPS) 615.934

TEST HOLE NO. 20
 LOCATION: NB M-19 SHOULDER
 PHYSICAL REFERENCE: 176' NORTH OF ARLINGTON DR. C/L
 PHYSICAL OFFSET: 7.9' EAST OF E.O.M. (RIGHT)
 NORTHING: 453038 EASTING: 13547890
 GROUND SURFACE ELEVATION: 0.0 FT BORING DATE: 10/13/16



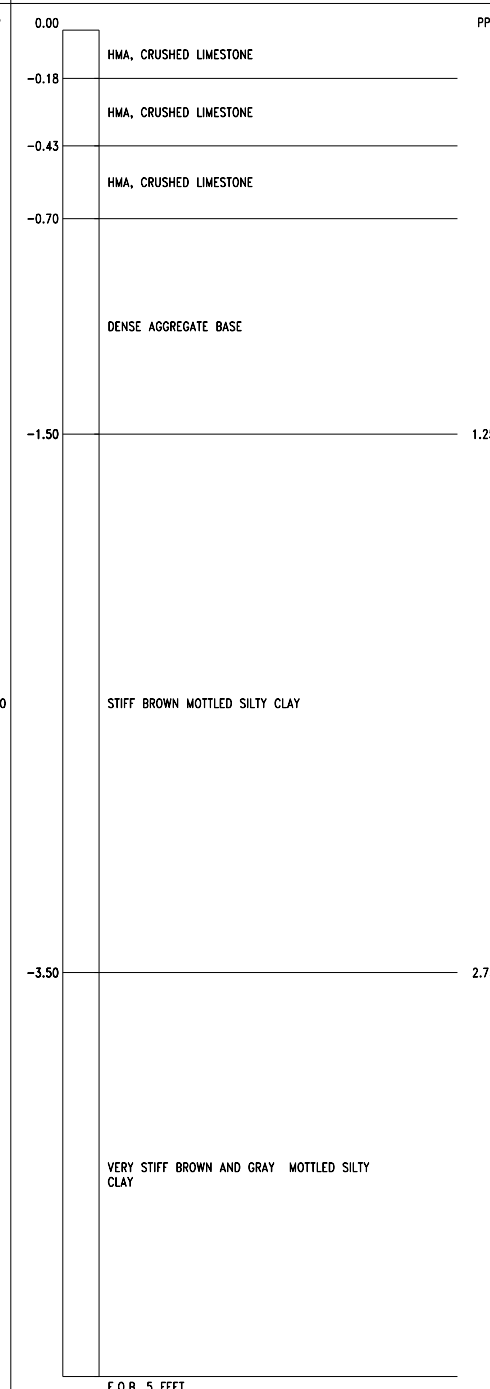
NOTES:
 - GROUNDWATER LEVEL DURING DRILLING: NOT ENCOUNTERED
 - GROUNDWATER LEVEL UPON COMPLETION: NOT ENCOUNTERED
 - GROUNDWATER LEVEL _ HOURS AFTER: NOT ENCOUNTERED
 - LOGGED BY: JIM DAVENPORT (MDOIT)
 - CHECKED BY: C. JAMES (MDOIT)
 - STEEL REINF. NOT ENCOUNTERED (4.25" DIA. CORE)
 - GROUND SURFACE ELEVATION (FROM GPS) 619.717

TEST HOLE NO. 21
 LOCATION: NB M-19 SHOULDER
 PHYSICAL REFERENCE: 250' NORTH OF JAMES CURTIN DR. C/L
 PHYSICAL OFFSET: 8.8' EAST OF E.O.M. (RIGHT)
 NORTHING: 453359 EASTING: 13548074
 GROUND SURFACE ELEVATION: 0.0 FT BORING DATE: 10/13/16



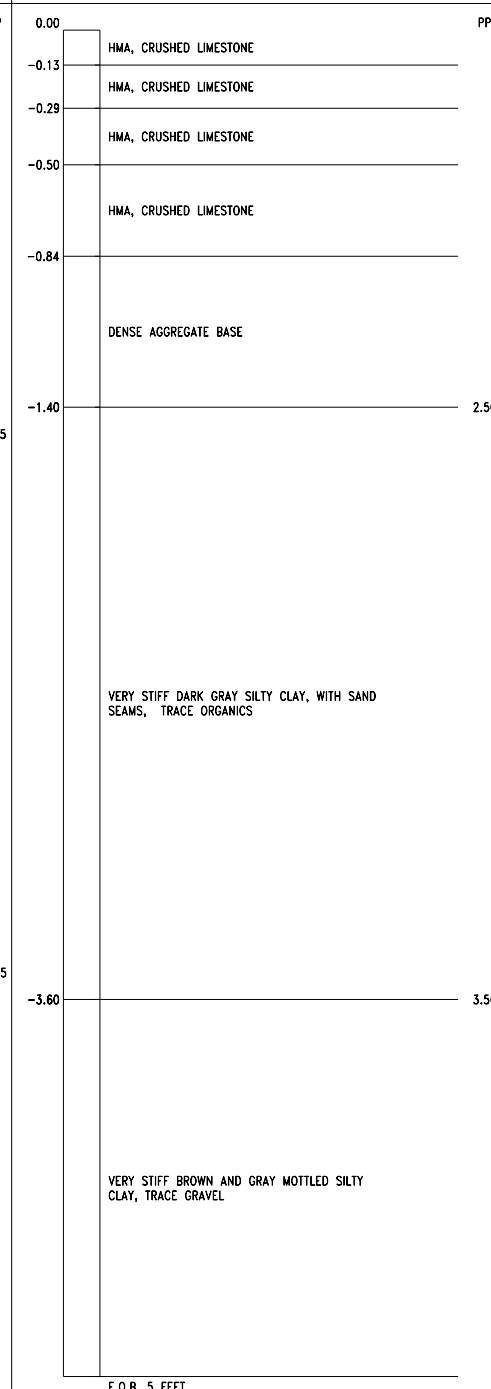
NOTES:
 - GROUNDWATER LEVEL DURING DRILLING: NOT ENCOUNTERED
 - GROUNDWATER LEVEL UPON COMPLETION: NOT ENCOUNTERED
 - GROUNDWATER LEVEL _ HOURS AFTER: NOT ENCOUNTERED
 - LOGGED BY: JIM DAVENPORT (MDOIT)
 - CHECKED BY: C. JAMES (MDOIT)
 - STEEL REINF. NOT ENCOUNTERED (4.25" DIA. CORE)
 - GROUND SURFACE ELEVATION (FROM GPS) 621.637

TEST HOLE NO. 22
 LOCATION: SB M-19 SHOULDER
 PHYSICAL REFERENCE: 347' SOUTH OF CLARK STREET F.O.C.
 PHYSICAL OFFSET: 6.9' WEST OF E.O.M. (LEFT)
 NORTHING: 453551 EASTING: 13548134
 GROUND SURFACE ELEVATION: 0.0 FT BORING DATE: 10/13/16



NOTES:
 - GROUNDWATER LEVEL DURING DRILLING: NOT ENCOUNTERED
 - GROUNDWATER LEVEL UPON COMPLETION: NOT ENCOUNTERED
 - GROUNDWATER LEVEL _ HOURS AFTER: NOT ENCOUNTERED
 - LOGGED BY: JIM DAVENPORT (MDOIT)
 - CHECKED BY: C. JAMES (MDOIT)
 - STEEL REINF. NOT ENCOUNTERED (4.25" DIA. CORE)
 - GROUND SURFACE ELEVATION (FROM GPS) 621.976

TEST HOLE NO. 23
 LOCATION: SB M-19 SHOULDER
 PHYSICAL REFERENCE: 364' SOUTH OF CLARK STREET F.O.C.
 PHYSICAL OFFSET: 7.2' WEST OF E.O.M. (LEFT)
 NORTHING: 453536 EASTING: 13548126
 GROUND SURFACE ELEVATION: 0.0 FT BORING DATE: 10/13/16



NOTES:
 - GROUNDWATER LEVEL DURING DRILLING: NOT ENCOUNTERED
 - GROUNDWATER LEVEL UPON COMPLETION: NOT ENCOUNTERED
 - GROUNDWATER LEVEL _ HOURS AFTER: NOT ENCOUNTERED
 - LOGGED BY: JIM DAVENPORT (MDOIT)
 - CHECKED BY: C. JAMES (MDOIT)
 - STEEL REINF. NOT ENCOUNTERED (4.25" DIA. CORE)
 - GROUND SURFACE ELEVATION (FROM GPS) 622.181

PP = POCKET PENETROMETER, UNCONFINED COMPRESSIVE STRENGTH - TONS/SQ.FT (TSF)
 UCS = LAB DETERMINED UNCONFINED COMPRESSIVE STRENGTH - TONS/SQ.FT (TSF)
 TV = TORVANE SHEAR TEST, SHEAR STRENGTH - TONS/SQ.FT (TSF)
 MC = MOISTURE CONTENT - (%)
 DD = DRY DENSITY - LBS/CU.FT (PCF)
 DCP = DYNAMIC CONE PENETRATION - (MM/BLOW)

THE DCP INDEX IS REPORTED AT DEPTHS EXHIBITING DISTINCT CHANGES IN SLOPE ON A PLOT OF CUMULATIVE PENETRATION VS. NUMBER OF BLOWS. EACH DCP INDEX REPRESENTS THE AVERAGE PENETRATION PER BLOW FOR THE SOIL BELOW THAT POINT. "ETD" = END TEST DEPTH.

CONSISTENCY DETERMINED BY INSPECTION OF SAMPLES AND BY SOIL RESISTANCE TO PENETRATION BY JET ROD AND CASING OR AUGER. UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) GROUP SYMBOL DETERMINED PER (ASTM) VISUAL-MANUAL PROCEDURES.

GROUNDWATER LEVELS REPRESENT THE CONDITIONS AT THE TIME THE MEASUREMENTS WERE OBTAINED AND SHOULD BE EXPECTED TO FLUCTUATE THROUGHOUT THE YEAR. GROUNDWATER LEVELS MAY ALSO BE INFLUENCED BY RESIDUAL BORING WATER.

THE SOIL BORING LOGS REPRESENT POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY IMPLIES THAT THE SUBSURFACE CONDITIONS ARE THE SAME AT LOCATIONS OTHER THAN THE EXACT LOCATION OF THE BORING.

"PHYSICAL REFERENCE" AND "PHYSICAL OFFSET" ARE BASED ON EXISTING FEATURES AS OF THE "BORING DATE".

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)								DATE: 04/19/17		CS: 50092		SOIL BORING SHEET		DRAWING SHEET	
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	DESIGN UNIT: JAHAN		JN: 116807A, 129243A		M-19 BORING 003		SECT 1 51	
								TSC: MACOMB		FILE: 116807_129243_SoilBoring_4.dgn					



NO SCALE