

LOCATION MAP

LATITUDE: 41°23'20.12" LONGITUDE: 81°01'54.57"



PORTION TO BE IMPROVED	
INTERSTATE HIGHWAY	
FEDERAL ROUTES	
STATE ROUTES	
COUNTY & TOWNSHIP ROADS	
OTHER ROADS	

DESIGN DESIGNATION	SLM
	3.40 - 6.38
CURRENT ADT (2023)	1800
DESIGN YEAR ADT (2043)	2200
DESIGN HOURLY VOLUME (2043)	300
DIRECTIONAL DISTRIBUTION	70.7 %
TRUCKS (24 HOUR B&C)	11.0 %
DESIGN SPEED	55 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
MINOR ARTERIAL	
NHS PROJECT	NO

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

NONE

UNDERGROUND UTILITIES


Contact Two Working Days
Before You Dig


Before You Dig

OHIO 811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:
ODOT DISTRICT 12
PLANNING AND ENGINEERING
5500 TRANSPORTATION BLVD
GARFIELD HEIGHTS, OH 44125

ENGINEER'S SEAL



STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

GEA-88-3.40

PARKMAN TOWNSHIP

GEAUGA COUNTY

INDEX OF SHEETS:

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STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-2.1	1/21/22	TC-74.10	1/20/23			800	SEE PROPOSAL
BP-3.1	1/21/22	TC-82.10	7/19/19			807	1/21/22
BP-3.2	1/18/19					821	4/20/12
BP-4.1	7/19/13					832	7/15/22
						850	4/15/22
MT-97.12	1/20/17					875	1/18/19
MT-99.20	4/19/19					921	4/20/12
MT-99.30	1/17/20						
MT-101.90	7/17/20						
MT-105.10	1/17/20						
TC-42.10	10/18/13						
TC-64.10	1/20/23						
TC-65.10	1/17/14						
TC-65.11	7/15/22						
TC-71.10	7/15/22						

FEDERAL PROJECT NUMBER

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

RESURFACING NASH RD (SR-88) FROM MADISON RD (SR-528) TO THE TRUMBALL COUNTY LINE IN PARKMAN TWP.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	N/A
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	N/A
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.


2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

DISTRICT DEPUTY DIRECTOR

DIRECTOR, DEPARTMENT OF TRANSPORTATION



TITLE SHEET

DESIGN AGENCY



DESIGNER

KHD

REVIEWER

DAB 02-02-23

PROJECT ID

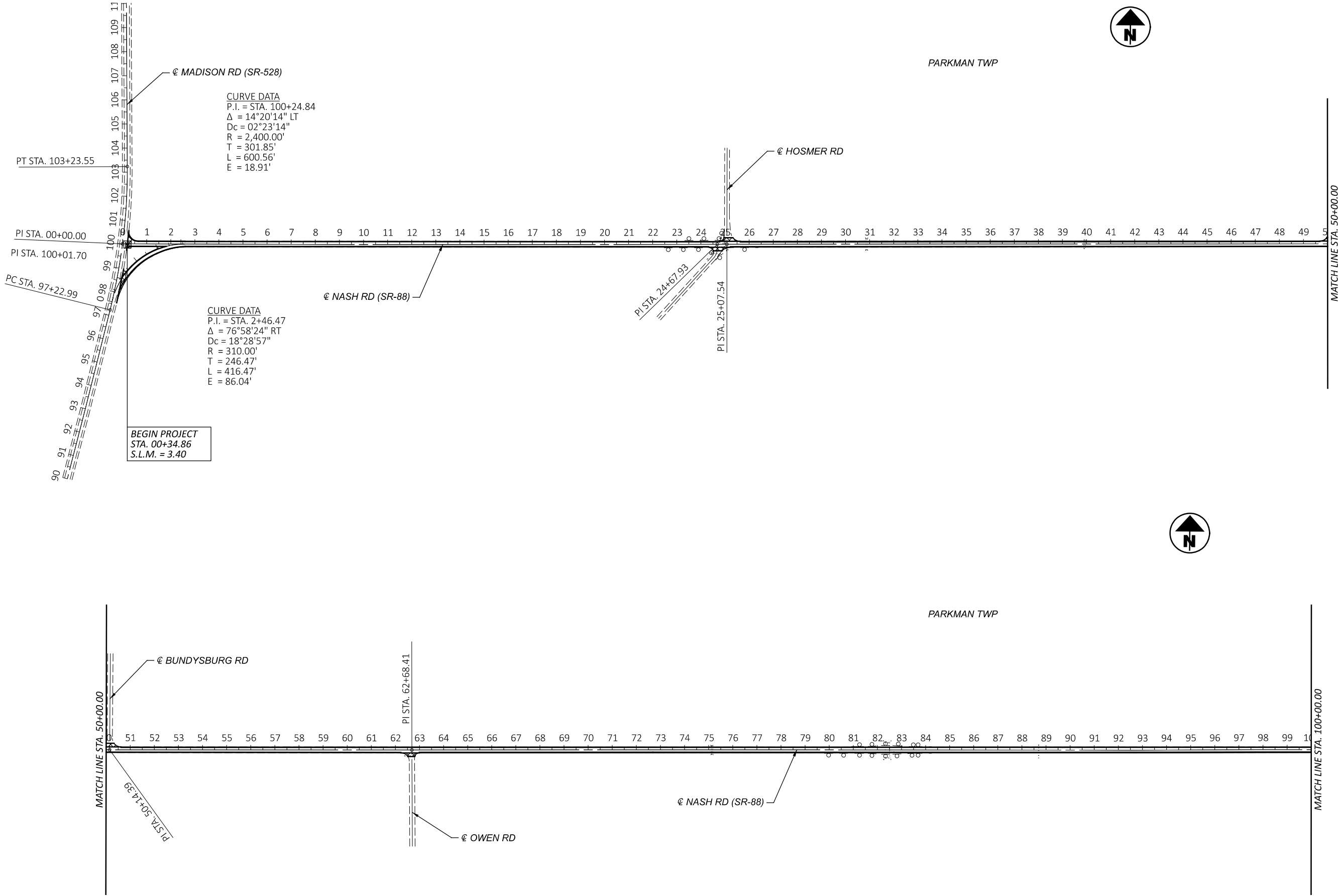
99684

SHEET

P.1

TOTAL

23



SCHEMATIC PLANS
NASH RD (SR-88) STA. 00+00.00 TO 100+00.00

DESIGN AGENCY



DESIGNER

KHD

REVIEWER

DAB 02-02-23

PROJECT ID

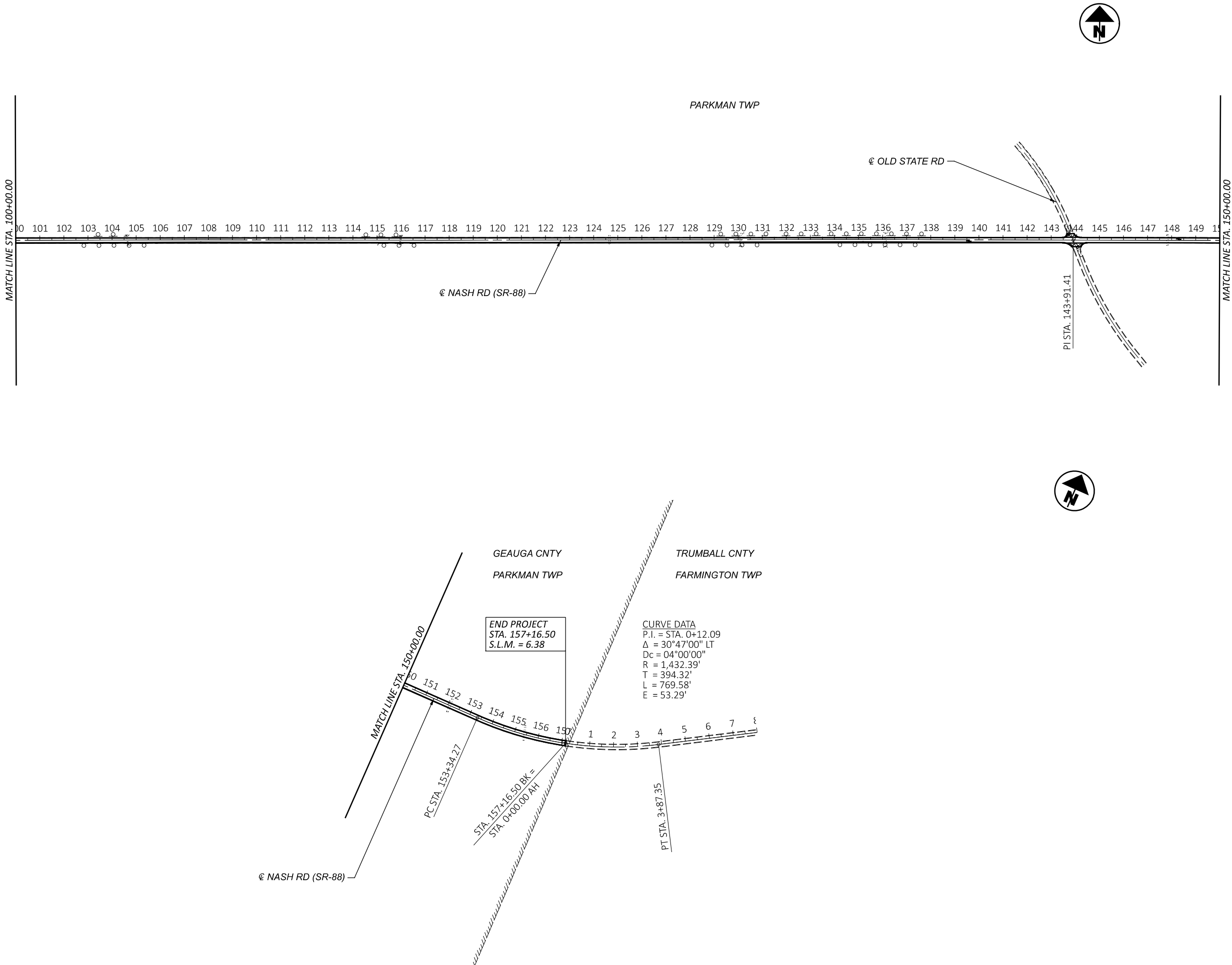
99684

SHEET

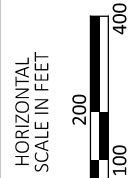
P.2

TOTAL

23



SCHEMATIC PLANS
NASH RD (SR-88) STA. 100+00.00 TO 157+16.50



DESIGN AGENCY



DESIGNER
KHD

REVIEWER
DAB 02-02-23

PROJECT ID
99684

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TOTAL
23

EXISTING LEGEND

- (A)

ASPHALT CONCRETE
- (B)

ASPHALT CONCRETE, AC-20
- (C)

ASPHALT CONCRETE W/ SBR LATEX,
SURFACE COURSE, TYPE 1, AC-10
- (D)

ASPHALT CONCRETE BASE
- (E)

BITUMINIOUS AGGREGATE
- (F)

AGGREGATE BASE
- (G)

EXISTING GUARDRAIL

PROPOSED LEGEND

- (1)

ITEM 209 - LINEAR GRADING, AS PER PLAN
- (2)

ITEM 209 - PREPARING SUBGRADE FOR
SHOULDER PAVING, AS PER PLAN
- (3)

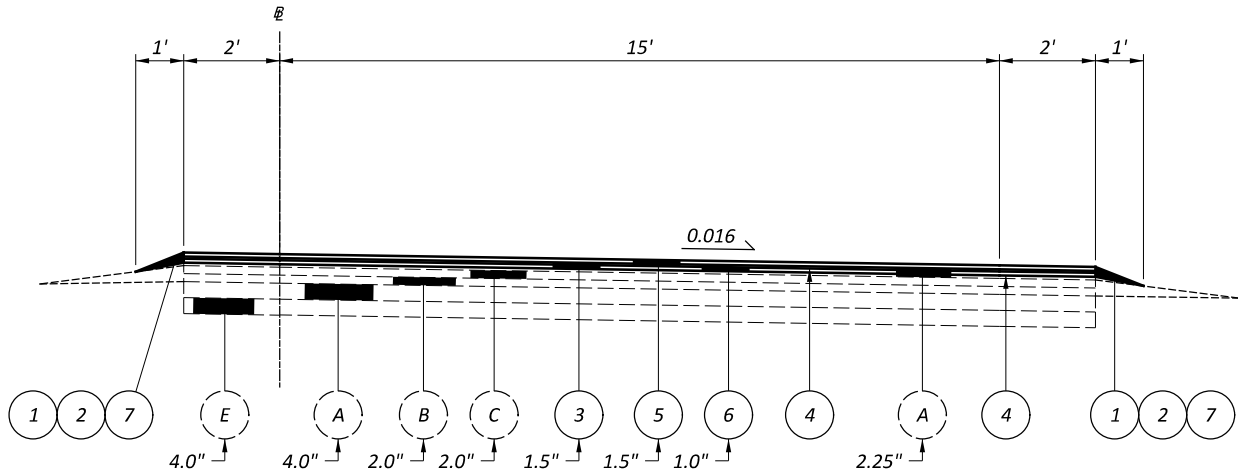
ITEM 254 - PAVEMENT PLANING,
ASPHALT CONCRETE, AS PER PLAN, 1.5"
- (4)

ITEM 407 - NON-TRACKING TACK COAT
- (5)

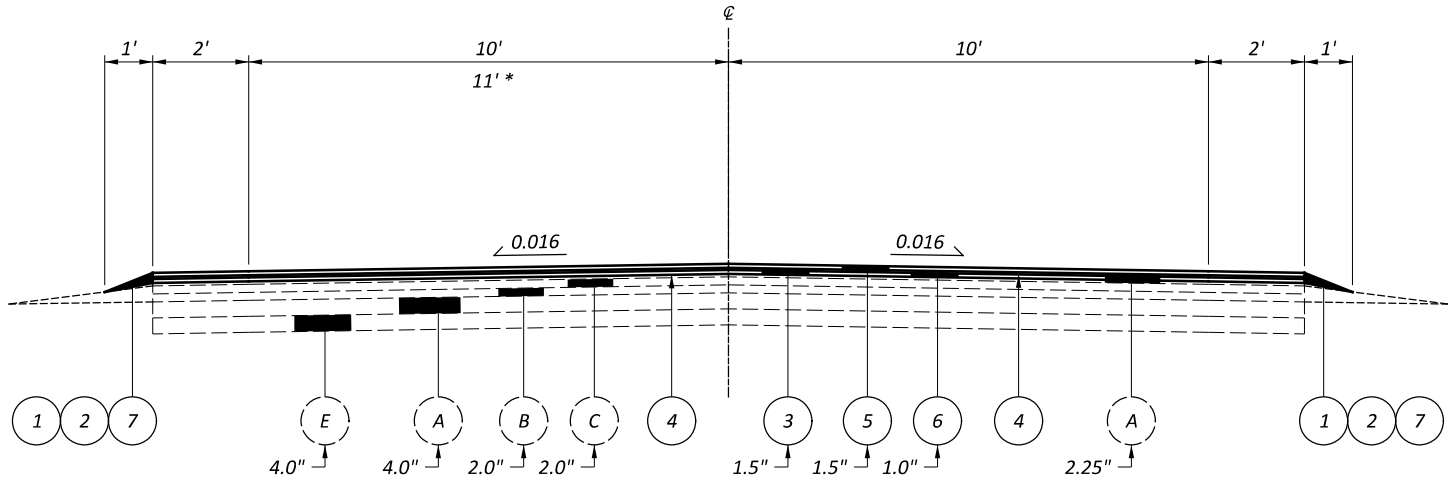
ITEM 441 - ASPHALT CONCRETE SURFACE COURSE,
TYPE 1, (446), AS PER PLAN, PG70-22M, 1.5"
- (6)

ITEM 441 - ASPHALT CONCRETE INTERMEDIATE
COURSE, TYPE 1, (448), 1.0"
- (7)

ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN



TURN LANE NORMAL SECTION



MAINLINE NORMAL SECTION I
STA. 00+19.86 TO 2+59.19 *
STA. 2+59.19 TO 24+17.00



EXISTING LEGEND

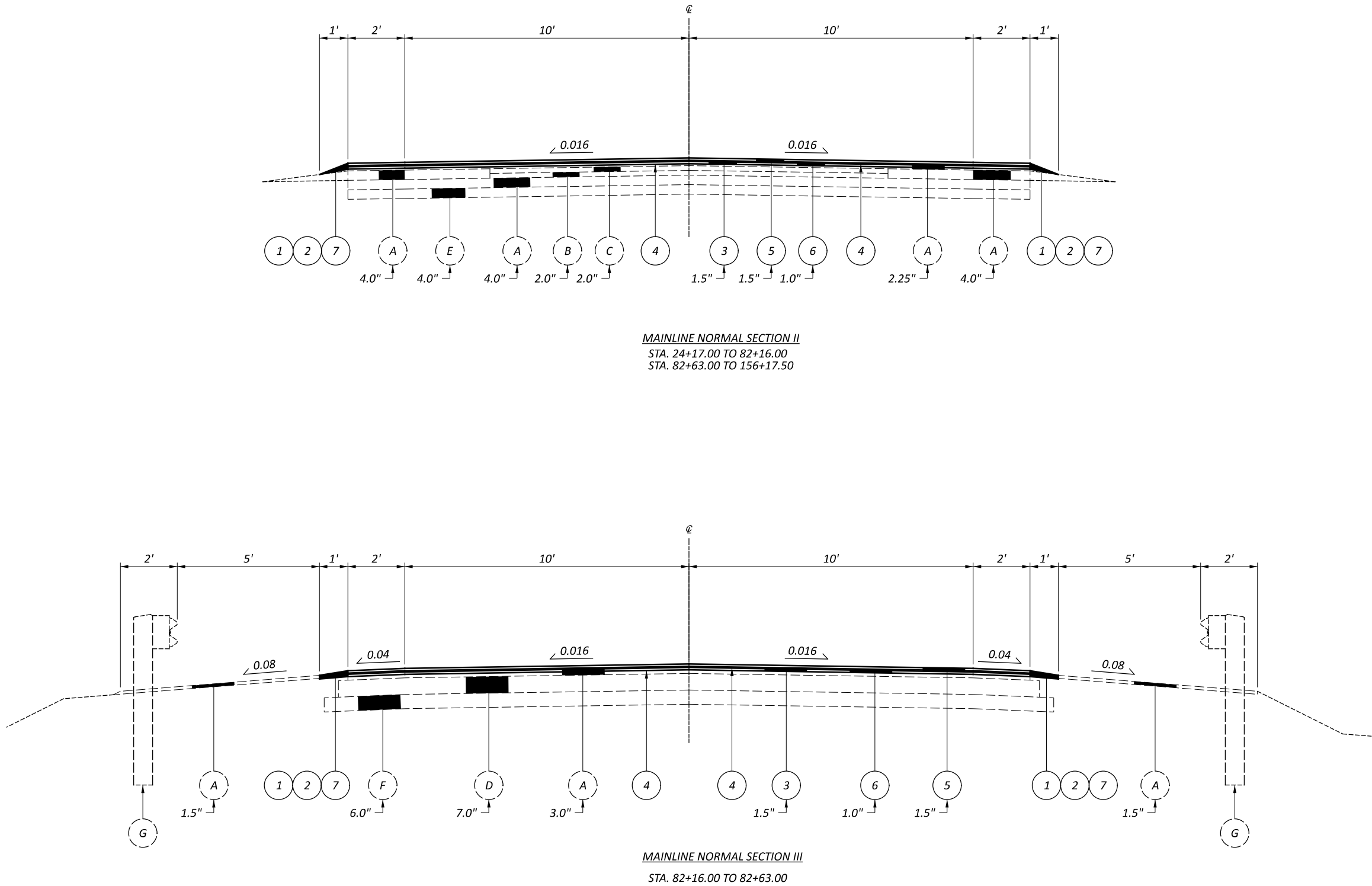
- (A) ASPHALT CONCRETE
(B) ASPHALT CONCRETE, AC-20
(C) ASPHALT CONCRETE W/ SBR LATEX, SURFACE COURSE, TYPE 1, AC-10

- (D) ASPHALT CONCRETE BASE
(E) BITUMINIOUS AGGREGATE
(F) AGGREGATE BASE

- (G) EXISTING GUARDRAIL

PROPOSED LEGEND

- (1) ITEM 209 - LINEAR GRADING, AS PER PLAN
(2) ITEM 209 - PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN
(3) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 1.5"
(4) ITEM 407 - NON-TRACKING TACK COAT
(5) ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), AS PER PLAN, PG70-22M, 1.5"
(6) ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), 1.0"
(7) ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN



GENERAL

Project Description

This project consists of resurfacing Nash Road (SR-88) from Madison Road (SR-528) to the County Line in Parkman Township.

Existing Typical Sections

Existing typical sections have been taken from the records and are believed to represent the existing pavement, but the State of Ohio does not guarantee the accuracy of the same.

For further information in regard to the existing typical sections, the contractor shall refer to the previous construction plans.

These plans may be reviewed at the

Ohio Department Transportation
District 12 Office
5500 Transportation Boulevard
Garfield Heights, Ohio 44125

Contingency Quantities

The contractor shall not order materials or perform work for items designated by plan note to be used “as directed by the engineer” unless authorized by the engineer. The actual work locations and quantities used for such items shall be incorporated into the final change order governing completion of this project.

Equipment and Material Storage

In order to provide for the safety of the traveling public the Contractor's attention is directed to 614.03. In addition, the following provisions shall apply:

- 1. Any removed items shall not be stored on the right of way for more than thirty (30) days.
- 2. The storage of equipment, materials, and vehicles within the highway right of way will be permitted. The number of areas and exact locations shall be approved by the Engineer.
- 3. All disturbed areas shall be returned to their original condition at no expense to the state.

Cooperation Between Contractors

The contractor shall cooperate and coordinate operations with the contractors on other projects that may be in force during the life of the contract.

Work Limits

The work limits shown on these plans are for physical construction only. The installation and operation of all temporary traffic control and temporary traffic control devices required by these plans shall be provided by the contractor whether inside or outside these work limits.

Environmental Commitment

The contractor shall advise emergency services and school districts fourteen (14) days prior to the start of construction activities.

Right Of Way

All work shall be performed within the existing right of way or easements.

Plan Sheet Stationing

The roadway was not surveyed prior to the preparation of these plans. Stationing was provided to prepare plan sheets and calculate pavement and pavement marking quantities.

Construction Noise

Activities and land use adjacent to this project may be affected by construction noise. In order to minimize any adverse construction noise impacts, do not operate power-operated construction-type devices between the hours of 9:00pm and 7:00am. In addition, do not operate at any time any device in such a manner that the noise created substantially exceeds the noise customarily and necessarily attendant to the reasonable and efficient performance of such equipment.

Staging Areas

There are no specific areas given in the plans for the Contractor to use as a staging area(s). If the Contractor wants to use an area(s) for staging, regardless if it falls within the project limits or not, the Contractor is to use the Right of Way E-Permitting System at <https://odhcp.bemcorp.net/Accounts/Account/Account> in order to apply for a permit per Section 107.02 of the CMS. For specific permitting questions, the Contractor can contact the District Permitting Office, (Melvin Safford) at 216-584-2137 or at District12Permits@dot.ohio.gov.

If a permit is granted, all conditions of the permit shall be met in addition to the requirements of 104.04 of the CMS, at no additional cost to the State. If the Project Engineer deems that all the conditions of the permit were not met, then 10% of the Contract bid amount for mobilization shall be withheld until all the conditions of the permit are satisfied.

Item 619 – Field Office, Type B, As Per Plan

In addition to the requirements of CMS 619, the Contractor shall furnish and set up a Wi-Fi router meeting the requirements of IEEE 802.11ac for the exclusive use of the Department.

All other field office items supplied shall meet the requirements of a Type B, Field Office.

Item 619 – Field Office, Type B, As Per Plan **6 Months**

Protection of Right-of-Way Landscaping

Prior to beginning work, the Contractor, the Project Engineer and a representative of the maintaining agency will review and record all landscaping items within the right-of-way (both within and outside the construction limits). A record of this review will be kept in the Project Engineer's files. Prior to final acceptance, a final review of landscaping items will be made.

Constrict all activities, equipment storage and staging to within the construction limits. Unless otherwise identified in the plans or proposal, the construction limits are identified as 30 feet from the edge of pavement.

Submit a written request to the Project Engineer to use any area outside these limits. The document submitted must clearly identify the area and explain the proposed use and restoration of the area. Use of these areas for disposal of waste material and construction debris, excavation of borrow material and placement of portable plants is prohibited. The request must be approved, in writing, before the Contractor has permission to use the area.

Any items damaged beyond the construction limits, as defined above, will be replaced in kind or as approved by the Project Engineer.

Utilities

The following utilities and owners are located within the work limits of this project. The Ohio Department of Transportation has used the best available information to determine the utility companies serving this area but cannot guarantee the utility company list is complete.

Ohio Edison (First Energy)
470 East Highland Road
Macedonia, Ohio 44056
Attn: Brian Pound
Phone: (330) 342-1220
npound@firstenergycorp.com

Brainard Gas Corp.
4369 Brainard Road
Orange Village, OH 44022
Attn.: sTim Reilly
Office 440-701-5115
Mobile 440-728-0575
Fax 440-205-8669
treilly@egas.net

Ohio Department of Transportation
District 12 – Roadway Services
5500 Transportation Blvd.
Garfield Heights, Ohio 44125
Attn: Keith Hamilton
Phone: 216-584-2220
Or
Attn: David Nimrichter
Phone: 216-584-2296

There are no underground utilities shown on this plan. The nature of the work required by this project will not affect any known underground utilities that exist under or adjacent to the work area.

Altice USA
OSP Supervisor Parkersburg WV,
1737 7th St. Parkersburg WV, 26101.
Attn.: William A Brown
Office; 304-865-4067
Cell; 304-588-7782
William.Brown@AlticeUSA.com

Windstream
100 Owen Brown St.,
Hudson, Ohio 44236
Attn: Jon Hobby
Phone: 440-285-5474
Jon.Hobby@windstream.com

DESIGN AGENCY



DESIGNER

KHD

REVIEWER

DAB 02-02-23

PROJECT ID

99684

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TOTAL

23

Roadway and Erosion Control

Item 209 – Linear Grading, As Per Plan

This item of work shall consist of grading along the outside edge of the paved shoulder to back-up the safety edge, eliminate high spots, fill in low areas, and provide positive sheet flow off the pavement and shoulder into roadside ditches or drainage structures. This item is not intended to be used to excavate a uniform depth to place Item 617 – Compacted Aggregate, As Per Plan.

Any excess debris collected shall be removed and disposed of as specified in Section 105.16 & 105.17 of the Construction and Material Specifications. Item 617 – Compacted Aggregate, As Per Plan has been provided to be used as directed by the Engineer to fill in any remaining low areas after Item 209 – Linear Grading, As Per Plan is completed.

Payment for the above work shall be made at the unit bid price for Item 209 - Linear Grading, As Per Plan and shall include all labor, tools, equipment and materials necessary to perform this item of work.

The estimated quantity in the General Summary shall be used as directed by the Engineer.

Item 209 – Preparing Subgrade for Shoulder Paving, As Per Plan

Prepare the shoulder for paving a consistent safety edge in both thickness and width.

Prior to paving the safety edge, grade an area 10” wide, beginning at the edge of the paved roadway, to provide a level surface free of vegetation for construction of the safety edge. If necessary, excavate the graded area to the depth necessary to construct the safety edge. Compact the graded shoulder according to 617.05, or as directed by the engineer.

Payment for the above work shall be made at the unit bid price for Item 209 – Preparing Subgrade for Shoulder Paving, As Per Plan and shall include all labor, tools, equipment and materials necessary to perform this item of work.

The estimated quantity in the general summary shall be used as directed by the Engineer.

Castings Adjusted to Grade, As Per Plan

All castings, within the asphalt overlay section, shall be adjusted to the finished roadway elevation by the Contractor. The time between adjusting the castings and resurfacing shall be kept to an absolute minimum. No adjusting rings shall be permitted.

The following estimated quantities have been carried to the General Summary:

Item 623 – Monument Assembly Adjusted to Grade, As Per Plan..... 1 Each

Pavement

Profile and Alignment

Place the proposed pavement to follow the alignment of the existing pavement. Place the proposed asphalt concrete with a uniform thickness as shown on the typical sections.

Planing Requirements

The duration of time between planing the asphalt and placing the intermediate asphalt overlay shall be kept to a minimum. In no instance shall this time exceed 7 calendar days. The time limit shall begin on the first day of planing and shall continue based on calendar days, minus any weather days, until completion of the asphalt concrete surface course. This is to ensure that the potential degradation of the exposed pavement due to traffic is kept to a minimum.

In the event that the time between exposing the existing pavement and placing the intermediate asphalt course exceeds 7 calendar days, liquidated damages as per 108.07 of the C&MS shall be assessed.

Asphalt Concrete Surface Course Sealing Requirements

In addition to the gutter sealing requirements specified in SCD BP-3.1 and C&MS 401.15, after completion of the surface course, the contractor shall use a certified 702.01 PG binder to seal the following locations:

- All castings including but not limited to monuments, manholes, water valves, catch basins, curb inlets.
- Butt joints and feather joints including bridge approaches.
- Forward joint for driveway asphalt and trailing joint when butting to existing asphalt drive.
- Perimeter of all pavement repairs or other asphalt inlays when pavement repairs/inlays are not overlaid with an asphalt concrete surface course.
- All cold longitudinal joints between paved shoulders and guardrail asphalt.

The material used shall be a certified 702.01 PG binder. The width of the sealer shall be 2-3 inches.

Any additional costs associated with the work identified in this note shall be included in the appropriate asphalt concrete surface course item of work.

Item 251 – Partial Depth Pavement Repair (441)

This item shall be used to repair unsound, cold patch, or pop-out areas of longitudinal and transverse joints as directed by the Engineer. This work shall be performed after the planing operation. The depth of the repair shall be 3” below the top of the existing asphalt surface. The width of the repair shall be 12” centered over the existing joint.

Use replacement materials conforming to the requirements of Item 441, Type 2.

The following estimated quantity has been carried to the General Summary:

Item 251 – Partial Depth Pavement Repair..... 900 SY

Item 253 – Pavement Repair

This work item is for use as directed by the Engineer for the purpose of pavement repair. All labor and material necessary to perform this work and section 250 of the CMS shall be included for payment under Item 253.

Depth of pavement repair removal shall typically be 5” measured after the pavement has been planed. The depth of repair shall be as directed by the Engineer if unsound material is encountered after the removal of the 5”.

Use replacement materials conforming to the requirements of Item 301.

The following estimated quantity has been carried to the General Summary:

Item 253 – Pavement Repair..... 60 CY

Item 254 – Pavement Planing, Asphalt Concrete, As Per Plan

This item shall be used to remove the existing asphalt overlay full width at an average depth of one and a half (1.5”) inches, except as required for pavement transitions as specified in the plans on US-6. Areas which have transverse wedges (butt joints) are to be removed in two passes as required for maintaining traffic. No additional payment shall be made for the second pass.

The depth of pavement planing may be variable across the pavement width, however, the depth may be adjusted, by the Engineer, in order to achieve appropriate pavement crown for drainage and/or to minimize removal of material in areas with less than typical or average structural strength. All provisions stated in Item 254 – Pavement Planing shall be followed.

Item 254 – Pavement Planing, Portland Cement Concrete, As Per Plan

This item shall be used to plane existing concrete side streets and driveways full width to provide a butt joint for the proposed asphalt overlay. Planing shall end at an existing joint. Concrete driveways shall be planed as directed by the engineer.

The depth of pavement planing may be variable across the pavement width, however, the depth may be adjusted, by the Engineer, in order to achieve appropriate pavement crown for drainage and/or to minimize removal of material in areas with less than typical or average structural strength. All provisions stated in Item 254 – Pavement Planing shall be followed.

Item 304 – Aggregate Base, As Per Plan

This item shall be used as directed by the Engineer in pavement repair areas where the Engineer deems the subgrade material unsuitable.

Place 6” of material conforming to the requirements of Item 304.

The following estimated quantity has been carried to the General Summary for use as directed by the Engineer:

Item 304 – Aggregate Base..... 25 CY

DESIGN AGENCY



DESIGNER

KHD

REVIEWER

DAB 02-02-23

PROJECT ID

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TOTAL

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Item 441 – Asphalt Concrete Surface Course, Type 1, (446), As Per Plan

The coarse virgin aggregate for this item shall consist of a blend of 60% min. air cooled blast furnace slag (ACBFS) or Trap Rock from Ontario with limestone comprising the remaining percentage.

Use a PG70-22M binder for this item.

Follow all requirements of the specifications with the addition of the following:

Perform the IDEAL-CT for the mix design submittal per Supplement 1033 on the JMF asphalt binder content determined from the design air voids and ensure the minimum in the table below is met for the mix type. The IDEAL-CT only needs to be ran for mix design acceptance.

Provide results per Supplement 1033 with the mix design. Supply six gyratory compacted specimens to the height mentioned in Supplement 1033 for the mix type specified. Allow more than two weeks for mix design review and preliminary approval due to OMM verifying the mix.

Mix Type	Minimum CT _{index}
Item 442 (Superpave) 9.5 mm	80
Item 442 (Superpave) 12.5 mm (Surface)	80
Item 442 (Superpave) 12.5 mm (Intermediate)	70
Item 442 (Superpave) 19 mm (Intermediate)	60
Item 441 (Marshall) Type 1 Surface Mixes	80
Item 441 (Marshall) Type 1 Intermediate Mixes	80
Item 441 (Marshall) Type 2 Intermediate Mixes	60
Item 302 (Marshall) Mixes	60

Follow 403, except as follows:

- Offset the AC gauge for each JMF for the project prior to the project's start using 403.06.A. and the MODIFIED Supplement 1043 procedure below.
- During S-1043.07 process, a RAP sample obtained from the JMF-designated RAP pile will be extracted in the Asphalt Level 3 lab to verify the RAP AC %. The RAP AC % will be within 0.3% of the average RAP AC % from the JMF. If RAP AC % is outside of the 0.3%, the verification pan process will stop, and District Testing will allow one opportunity to rework the RAP pile at the mix plant and resample. Resampling requires District Testing to be present. If the resample is still outside of the 0.3%, the JMF will be rescinded and need to be redesigned.

Follow 403.06 except as follows:

- Ensure asphalt binder content does not exceed Table 403.06.G-1. Adjustments to mix plant control settings must be submitted to and approved by District Testing prior to making the adjustment. The adjustment cannot exceed +/- 0.2% from Design AC % from JMF. Do not lower virgin binder content or increase RAP percent. Ensure plant ticket shows the adjustment and is set to the adjusted total AC % at all times afterwards.
- Record the daily verification pan results in a separate worksheet and make sure it's posted in the plant facility and available to the monitors. Include the date ran, verification pan result, and initials of who ran it. Ensure a printout of the daily verification pan is also included with the TE-199.

Follow Supplement 1043 for AC Gauge offset, except as modified below:

- Follow 1043.07 except as followed:
 - Notify District Testing a minimum of one week prior to making verification pans.
 - District Testing will witness a solvent extraction from a sample from the RAP pile that is to be used in the JMF to verify the RAP AC %. RAP AC % will be within 0.3% of RAP AC % determined in JMF. If outside of 0.3%, do not proceed and the JMF will need to be redesigned.
 - District Testing will witness the verification pans being blended, mixed, and compacted.
 - Make a minimum of three verification pans for the JMF that are at the JMF asphalt binder content. Make one additional verification pan for each additional district the JMF will be used in.
 - In addition, turn possession over of the calibration AC gauge pans used to determine the fit coefficient to District Testing.
- For AC content pay acceptance, replace 1043.08 with the following:

Calculate an AC gauge offset amount for each JMF and mix plant in accordance with the following procedure prior to start of any production for the JMF. Notify District Testing 24 hours prior to offsetting gauge.

- Ensure printer is on and place the first verification pan in the AC gauge and run.
- After the 16-minute test, take the verification pan out and turn 180 degrees and place back in AC gauge and run.
- Repeat Steps 1 and 2 with second and third verification pans.
- For each run, take the JMF asphalt binder content minus the AC gauge AC % to obtain the offset for that run.
- Average all offsets for a final offset.
- Retain all of the verification pans. After the final offset is determined, District Testing will choose two of the verification pans and send one of these two to OMM to extract and reflux.
- District Testing will use the two verification pans to offset their AC gauge.

Before the beginning of a production day, run the verification pan in the AC gauge and ensure the offset AC gauge amount is within 0.14% of the JMF asphalt binder content. During the start of production for the JMF, solvent extract the first two QC samples and compare to the offset AC gauge. Ensure solvent extraction is within 0.3% of offset AC gauge. If more than 0.3% off, immediately resample and run AC gauge and solvent extract immediately. If two consecutive samples are more than 0.3% off, immediately stop production, contact monitoring team, and investigate the reason for the problem. Once two consecutive QC samples are within 0.3% of offset AC gauge, the final offset gauge is confirmed.

After confirming the AC Gauge offset amount proceed with determining AC contents of production samples by the AC gauge according to 1043.09.

Only determine one AC Gauge offset amount per JMF. If more than 30 days has lapsed since the JMF was last tested, re-do the offset procedure above with two verification pans (one from the contractor and one from the district). If an AC Gauge offset amount is later determined, by an investigation of both the Contractor and the District, to be incorrect re-do the offset procedure.

In addition, also determine the AC gauge offset following the current procedure as outlined in Supplement 1043 Dated January 21, 2022 and provide the information to the Department. This AC gauge offset number will not be used during QC testing.

Item 441 – Asphalt Concrete Surface Course, Type 1, (448), As Per Plan

The use of gravel for coarse virgin aggregate is prohibited.

Use a PG64-22 binder.

Item 617 – Compacted Aggregate, As Per Plan

This item shall be used along the shoulders. Material shall be limited to reclaimed asphalt concrete pavement.

The actual depth of compacted aggregate placed will vary depending upon existing conditions. For estimating purposes, an average depth of one inch (1") has been used. Water, if needed, shall be applied according to 617.05 and shall be included with Item 617 – Compacted Aggregate, As Per Plan.

This item shall be used, as directed by the Engineer to fill any remaining low areas after Item 209 – Linear Grading, As Per Pan is completed.



Traffic Control

Item Special – Misc.: Inventory Existing Pavement Markings

Prior to planing and paving operations, the Contractor is responsible for conducting a field survey of the existing permanent markings excluding center line markings. This inventory shall be used for the placement of temporary markings and proposed final pavement markings. It is the intent of this plan to replace the pavement markings in the same location as the existing pavement markings excluding center line markings. Any staking or marking required to establish control points to ensure that markings are accurately placed is the responsibility of the Contractor.

The field survey shall be provided to the Engineer at least two weeks prior to the disturbance of the existing pavement markings for verification and approval. The Engineer will provide written concurrence once the inventory has been approved. The Engineer will also verify all permanent marking locations prior to the actual installation.

The Contractor must lay out all center lines using the most recent copy of the No Passing Zone log. Copies of the No Passing Zone log can be obtained from the District 12 Roadway Services Department or can be found on the web at: <http://www.dot.state.oh.us/districts/D12/HighwayManagement/Pages/NoPassingZones.aspx>

The following quantity has been carried to the General Summary to be used as directed by the Engineer:

Item Special – Misc.: Inventory Existing Pavement Markings..... **Lump Sum**

Item 621 – Raised Pavement Marker Removed

This item shall include the removal and disposal of existing RPMs.

The following estimated quantity has been carried to the General Summary:

Item 621 – Raised Pavement Marker Removed **183 Each**

Item 632 – Detector Loop, As Per Plan

All stop line inductance detector loops shown in the plans shall be the powerhead configuration shown on TC-82.10. The width shall be as specified on TC-82.10 and the length shall match the existing detector loop length, with a maximum length of 35'. The stop line detector loops shall not be wired to any other loops and shall have their own detector channel. The location of these loops shall be such that the powerhead is located at the stop line, not past it.

All dilemma zone inductance detector loops called for in the plans shall be the Angular Design Detection (A.D.D.) loop as shown on TC-82.10. Dimensions shall be as specified on TC-82.10.

System loops shall be as depicted in the plans.

All stop line detection shall be tested for a bicycle target and all dilemma detection zones shall be tested for a motorcycle target.

Install detector loops in the surface course within 72 hours of its placement.

When replacing the loop detectors, the loop detector wire shall be replaced to the pull box or pole, whichever is applicable, under Item 632 and TC-82.10. The new cable splice kits shall be included in this pay item.

The Contractor shall contact the Project Engineer, Keith Hamilton, (216) 584-2220, District Traffic Engineer seven (7) days prior to planing through an intersection to adjust signal operation as needed.

The District Traffic Engineer shall concur with the location of the replacement loops.

The following estimated quantity has been carried to the General Summary for use as described above:

Item 632 – Detector Loop, As Per Plan..... **6 Each**

Detector Loop Locations

REFERENCE NO.	SEE SHEET NO.	LOCATION	632	632
			10'X8' WIRE LOOP DETECTOR	4.5'X9' A.D.D. LOOP
			EACH	
L-1	21	~440' west of Old State Rd along SR-88 EB		1
L-2	21	~440' east of Old State Rd along SR-88 WB		1
L-3	28	Old State Rd SB at SR-88	1	
L-4	28	Old State Rd NB at SR-88	1	
		Extra for Damaged Apron Loops, Use As Directed by the Engineer	1	1
SUBTOTALS			3	3
TOTAL CARRIED TO GEN. SUMMARY			6	



Maintenance of Traffic

Item 614 – Maintaining Traffic

Generally the Contractor shall conduct his operations as to complete the proposed improvement with a minimum of hazard, delay and inconvenience to the motorists using the highway affected by the work done under this contract. In addition to the construction and material specifications, the following specific provisions are mandatory.

I. Notification

Since functional traffic control is a major concern on this project, it is essential that the motoring public be adequately forewarned of future lane closures and traffic constrictions. Therefore, the Contractor shall submit a written schedule to the Engineer, responsible law enforcement agencies, and the ODOT Public Information Office (216-584-2007) indicating the locations and dates of the lane closures at least 3 days prior to the implementation of any such closures.

Use portable changeable message signs to alert motorists 3 days prior to the implementation of any changes such as lane closures or other restrictions.

II. Work Hours

The Contractor is not permitted to work at night. Limit work hours to daylight hours between 7:00 AM and 9:00 PM, Monday through Friday or between 8:30 AM and 7:00 PM on Saturday and Sunday.

III. Lane Closure, Planing and Paving Restrictions

- 1. All closures shall be in accordance with the applicable Standard Construction Drawing(s).
- 2. All through traffic lanes shall be kept open at all times except during hours of construction.
- 3. Pedestrian traffic shall be permitted and accommodated on at least one side at all times.

Notwithstanding the above, no lane closures shall occur during the period beginning at 12:00 noon on the day preceding and continuing until noon on the following legal holidays and holiday weekends such as Memorial Day, Fourth of July and Labor Day. Furthermore, no lane closures shall be implemented or in place during increased traffic volumes caused by special events or when the Engineer deems the climatological conditions too hazardous.

IV. Maintenance of Traffic Systems

A. When Required

Whenever any part of the traveled surface is being worked upon or is otherwise not suitable for safe and convenient use by vehicles, traffic control devices sufficient to protect such areas to assure the safe and convenient passage of vehicular traffic shall be installed and maintained. Such traffic control devices and the manner in which they are used shall be consistent with these plans and the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways, hereinafter referred to as the OMUTCD. The traffic control device system shall constitute the minimum provisions for traffic control for each particular situation. Whenever the Engineer deems it necessary especially where a grade, curve, or merge conditions exists, he may direct that additional or alternative devices be used.

B. Conditions

During all parts of this project, flaggers, signing, barricades, flashing arrows, etc. shall be located as indicated in the OMUTCD or as shown in the Standard Construction Drawings. Two-way traffic shall be maintained at all times.

C. Advance Warning Signs

All advance warning signs for any condition which restricts traffic shall be erected before any such restriction is put into effect. All such signs shall be covered or removed from the view of traffic whenever they are not applicable.

D. Flaggers and Law Enforcement Officers

At least two flaggers are required for each closure. The Contractor shall furnish additional flaggers as directed by the Engineer. Law Enforcement Officers (LEO's) shall be required for traffic direction only under the following circumstances: (1) if signals are non-operational, or (2) if traffic must move against signal phasing.

E. Protection of Public

Personal cars shall not be parked within the R/W.

F. Failure to Comply

If there is any failure to comply with provisions for traffic control set out in these plans and notes, or with the provisions of the OMUTCD, the highway in the vicinity of the work area shall not be considered in a condition for the safe and convenient use by the traveling public. Any failure to keep the highway, in the vicinity of the work area, in a condition for the safe and convenient use by the traveling public shall be considered a breach of this contract. Work shall be suspended until the Contractor complies with the provisions of the aforementioned items.

V. Maintenance of Traffic Materials

A. Signs

Sign dimensions and specifications, including letter sizes, shall be as provided in the OMUTCD or in design drawings provided by the Department of Transportation. The signs shall be subject to approval of the Engineer prior to the start of the project.

B. Sign Supports

Sign supports shall be of sufficient size and mass as to support the signs at the appropriate height. Supports shall be as shown on the Standard Construction Drawings.

C. Drums

Drums shall be in accordance with pertinent sections of the OMUTCD. All costs for installing, maintaining and subsequent removal of said drums shall be included in the lump sum bid price for Item 614 – Maintaining Traffic.

D. Cones

Cones, if utilized, shall be located as shown in the OMUTCD and the Standard Construction Drawings.

E. Flashers

Flashers shall be 12 volt battery-operated models with 7 inch diameter yellow lenses illuminated by rapid intermittent flashers of short duration and shall be placed on all signs at all times as required by the OMUTCD and the Standard Construction Drawings.

VI. Payment

Payment for providing, erecting, maintaining and removing temporary maintenance of traffic control devices shall be made under the lump sum price bid for Item 614 – Maintaining Traffic.

Holiday Closures

No work shall be performed and all existing lanes shall be open to traffic during the following designated holidays or events:

Christmas	New Years	Mother's Day
Memorial Day	Fourth of July	Easter
Labor Day	Thanksgiving	

The period of time that the lanes are to be open depends on the day of the week on which the holiday or event falls. The following schedule shall be used to determine this period:

Day of the Week	Times All Lanes Must Be Open to Traffic
Sunday	12:00 Noon Friday through 6:00 AM Monday
Monday	12:00 Noon Friday through 6:00 AM Tuesday
Tuesday	12:00 Noon Monday through 6:00 AM Wednesday
Wednesday	12:00 Noon Tuesday through 6:00 AM Thursday
Thursday	12:00 Noon Wednesday through 6:00 AM Monday
Thursday	6:00AM Wednesday through 6:00 AM Monday
(Thanksgiving only)	
Friday	12:00 Noon Thursday through 6:00 AM Monday
Saturday	12:00 Noon Friday through 6:00 AM Monday

Should the Contractor fail to meet any of these requirements, the Contractor shall be assessed a disincentive per the Lane Value Contract (PN 127).

Suspension of Work

If the Contractor fails to comply with the provisions for traffic control as set forth in these plans or with provisions of the OMUTCD, the Engineer shall suspend work until the Contractor complies with the necessary requirements.

Maintenance of Traffic Control Zones

The Contractor shall be responsible to maintain the signs, drums or cones specified in the Standard Construction Drawings. When the Contractor is notified of deficiencies, he shall correct the deficiencies as soon as possible, preferably within 12 hours and no later than 24 hours. If any noted deficiencies are not corrected within 24 hours the Engineer shall deduct one day pay for Item 614 – Maintaining Traffic, not as a penalty but as road user costs. The Contractor shall be subject to these road user costs for each and every day that these provisions are not met. All costs for maintaining the work zones as described above shall be included under Item 614 – Maintaining Traffic.

Construction Traffic

All construction traffic shall use acceptable truck routes to access the construction area. Use of local residential streets is strictly prohibited unless allowed in writing by the local enforcement authorities

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DESIGNER

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Work Zone Markings

The following estimated quantities have been carried to the General Summary for use at locations identified by the Engineer for work zone pavement markings per the requirements of CMS 614.04 and 614.11. Place temporary markings at the same locations as the proposed permanent markings.

After the planing is completed, use the following temporary markings:

Item 614 – Work Zone Center Line, Class I, 642 Paint	<u>2.98 Miles</u>
Item 614 – Work Zone Edge Line, Class I, 6”, 642 Paint	<u>6.04 Miles</u>
Item 614 – Work Zone Stop Line, Class I, 642 Paint	<u>60 FT</u>

After the intermediate course is placed, use the following temporary markings:

Item 614 – Work Zone Center Line, Class I, 642 Paint	<u>2.98 Miles</u>
Item 614 – Work Zone Edge Line, Class I, 6”, 642 Paint	<u>6.04 Miles</u>
Item 614 – Work Zone Stop Line, Class I, 642 Paint	<u>60 FT</u>

After the surface course is placed, use the following temporary markings:

Item 614 – Work Zone Center Line, Class III, 642 Paint	<u>2.98 Miles</u>
Item 614 – Work Zone Edge Line, Class III, 6”, 642 Paint	<u>6.04 Miles</u>
Item 614 – Work Zone Stop Line, Class III, 642 Paint	<u>60 FT</u>

Work Zone Marking Signs

After planing or paving, the Contractor may place these signs instead of placing work zone edge lines, which shall be non-performed, as directed by the Engineer. These signs shall be removed when painted edge lines are present. The following estimated quantity has been carried to the General Summary:

Item 614 – Work Zone Marking Signs	<u>11 Each</u>
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Major Work Items

The following major work items will require traffic maintenance which shall be incorporated into the Contractor’s sequence of operations.

- A. Removal of existing RPMs
- B. Planing of asphalt concrete
- C. Completion of pavement repairs
- D. Adjustment/reconstruction of existing castings
- E. Placing of asphalt intermediate and surface course
- F. Placing proposed pavement markings and raised pavement markers

Continuous Access

The Contractor shall maintain safe and adequate driveways and walkways in order to provide continuous access for pedestrians, passenger vehicles, trucks, and safety equipment to all adjoining properties

The cost for all materials, equipment, and labor necessary to provide continuous access shall be included in the lump sum price for Item 614 – Maintaining Traffic.

Permanent Pavement Marking

After placing the surface course, the Contractor may place permanent pavement markings instead of placing work zone pavement markings, which shall be non-performed at these locations.

Maintaining Traffic and Sequence of Operations

All asphalt concrete operations shall be conducted in a manner that will assure minimum danger and inconvenience to highway users. The procedure for the removal or placement of any existing or proposed asphalt course shall be such that no greater than 1-1/2” discontinuity in the elevation of the travelled surface shall be exposed to traffic.

Traffic shall not be permitted to cross any partial-width removal or resurfacing joint during the actual removal or paving operation except as necessary. Any partial-width longitudinal joints which must be exposed to traffic shall be ramped using Item 614 – Asphalt Concrete for Maintaining Traffic at a rate not steeper than 6:1.

Temporary transverse removal or paving joints which must be exposed to traffic shall be ramped using Item 614 – Asphalt Concrete for Maintaining Traffic as a rate not to exceed 1” in 10’.

For removal of existing overlays, a transition may be planed into the existing overlay and may be substituted for the asphalt ramps previously described, provided the transition is removed in a subsequent operation within 24 hours.

Whenever traffic is subject to partial width removals or overlays prior to full width completion, the Contractor shall provide W8-11-48 “UNEVEN LANES” signs (dual sign installation). Placement shall be as directed by the Engineer and included in the lump sum payment for Item 614 – Maintaining Traffic.

Whenever any part of the traveled surface is closed, the motorists shall be warned and diverted by the Contractor through the use of a flashing arrow, in addition to those provisions set forth in the OMUTCD, the Traffic Engineering Manual and the applicable Standard Construction Drawings.

Item 614 – Asphalt Concrete for Maintaining Traffic, As Per Plan

This item shall be used to provide temporary asphalt ramps for transverse discontinuities. Ramping shall be placed at the rate of 1” per 10’ or to be used as directed by the Engineer.

Remove temporary asphalt ramps as part of this item. Materials shall be removed prior to the placement of the next course of asphalt.

Item 614 – Asphalt Concrete for Maintaining Traffic, As Per Plan.....	<u>50 Cu Yd</u>
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Covering of Ground-Mounted Signs – General

When required by other items or incidentally to Item 614 – Maintaining Traffic, cover existing ground-mounted signs with plywood or OSB blanks (1/2” minimum thickness) covering 80% of the sign area and all of the sign legend. The use of low quality materials such as duct tape and black plastic is not permitted.

Item 630 – Signing Misc.: Additional Signs, Ground Mounted, As Directed by the Engineer

When additional signing is needed to maintain traffic, the Contractor shall furnish the sign or signs as directed by the Engineer. These signs shall be ground mounted and meet all the specifications of the plan, proposal and current year CMS.

Payment for this item shall include, but not be limited to, the cost to furnish and erect the sign, including driving posts or other approved methods of sign support, maintaining the sign and removal of the sign.

This item of work shall be used to provide signs that are beyond the requirements of the signage detailed in the Standard Construction Drawings and the OMUTCD.

The following estimated quantity has been carried to the General Summary to be used as directed by the Engineer:

Item 630 – Signing Misc.: Additional Signs, Ground Mounted, As Directed by the Engineer	<u>300 Sq Ft</u>
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DESIGN AGENCY



DESIGNER

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REVIEWER

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TOTAL

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Item 614 - Law Enforcement Officer (With Patrol Car) for Assistance

Use of Law Enforcement Officers (LEOs) by contractors other than the uses specified below will not be permitted at project cost. LEOs should not be used where the OMUTCD intends that flaggers be used.

In addition to the requirements of C&MS 614 and the OMUTCD, a uniformed LEO with an official patrol car (car with top-mounted emergency flashing lights and complete markings of the appropriate law enforcement agency) shall be provided for the following traffic control tasks:

- During the entire advance preparation and closure sequence where complete blockage of traffic is required.
- During a traffic signal installation when impacting the normal function of the signal or the flow of traffic, or when traffic needs to be directed through an energized traffic signal contrary to the signal display (e.g., directing motorists through a red light).

In addition to the requirement of C&MS 614 and the OMUTCD, a uniformed LEO with an official patrol car (car with top-mounted emergency flashing lights and complete markings of the appropriate law enforcement agency) may be provided for the following traffic control tasks as approved by the Engineer:

- For lane closures: during initial set-up periods, tear down periods, substantial shifts of a closure point or when new lane closure arrangements are initiated for long-term lane closures/shifts (for the first and last day of major changes in traffic control setup).

In general, LEOs should be positioned in advance of and on the same side as the lane restriction or at the point of road closure, and to manually control traffic movements through signalized intersections in work zones.

LEOs should not forgo their traffic control responsibilities to apprehend motorists for routine traffic violations. However, if a motorist's actions are considered to be reckless, then pursuit of the motorist is appropriate.

The LEOs work at the direction of the Contractor. The Contractor is responsible for securing the services of the LEOs with the appropriate agencies and communicating the intentions of the plans with respect to duties of the LEOs. The Engineer shall have final control over the LEOs' duties and placement, and will resolve any issues that may arise between the two parties.

The LEO shall report in to the Contractor prior to the start of the shift, in order to receive instructions regarding specific work assignments during his/her shift. The LEO is expected to stay at the project site for the entire duration of his/her shift. The LEO shall report to the Contractor at the end of his/her shift. Once the LEO has completed the duties described above and still has time remaining on his/her shift, the LEO may be asked to patrol through the work zone (with flashing lights off) or be placed at a location to deter motorists from speeding. Should it be necessary to leave the project site, the LEO shall notify the Engineer. The Contractor shall provide the LEO with a two-way communication device which shall be returned to the Contractor at the end of his/her shift.

LEOs (with patrol car) required by the traffic maintenance tasks above shall be paid for on a unit price (hourly) basis under Item 614, Law Enforcement Officer (With Patrol Car) for Assistance. The following estimated quantities have been carried to the General Summary.

Item 614 – Law Enforcement Officer
with Patrol Car for Assistance..... **80 Hours**

The hours paid shall include any minimum show-up time required by the law enforcement agency involved. Any additional costs (administrative or otherwise) incurred by the Contractor to obtain the services of an LEO are included with the bid unit price for Item 614, Law Enforcement Officer With Patrol Car for Assistance.

Item 614 – Portable Changeable Message Signs, As Per Plan

The Contractor shall furnish, install, maintain and remove, when no longer needed, a changeable message sign. The sign shall be of a type shown on a list of approved PCMS units available on the Office of Materials Management web page. The list contains Class A and B units with minimum legibility distances of 800 feet and 650 feet, respectively.

Each sign shall be trailer-mounted and equipped with a functional dimming mechanism, to dim the sign during darkness, and a tamper and vandal proof enclosure. Each sign shall be provided with appropriate training and operation instructions to enable on-site personnel to operate and troubleshoot the unit. The sign shall also be capable of being powered by an electrical service drop from a local utility company. The PCMS shall be delineated in accordance with C&MS 614.03.

Placement, operation, maintenance and all activation of the signs by the Contractor shall be as directed by the Engineer. The PCMS shall be located in a highly visible position yet protected from traffic. The Contractor shall, at the direction of the Engineer, relocate the PCMS to improve visibility or accommodate changed conditions. When not in use, the PCMS shall be turned off. Additionally, when not in use for extended periods of time, the PCMS shall be turned away from all traffic.

The Engineer shall be provided access to each sign unit and shall be provided with appropriate training and operation instructions to enable ODOT personnel to operate and troubleshoot the unit, and to revise sign messages, if necessary.

All messages to be displayed on the sign will be provided by the Engineer. A list of all required pre-programmed messages will be given to the Contractor at the project preconstruction conference. The sign shall have the capability to store up to 99 messages. Message memory or pre-programmed displays shall not be lost as a result of power failures to the on-board computer. The sign legend shall be capable of being changed in the field. Three-line presentation formats with up to six message phases shall be supported. PCMS format shall permit the complete message for each phase to be read at least twice.

The PCMS shall contain an accurate clock and programming logic which will allow the sign to be activated, deactivated or messages changed automatically at different times of the day for different days of the week.

The PCMS unit shall be maintained in good working order by the Contractor in accordance with the provisions of C&MS 614.07. The Contractor shall, prior to activating the unit, make arrangements, with an authorized service agent for the PCMS, to assure prompt service in the event of failure. Any failure shall not result in the sign being out of service for more than 12 hours, including weekends. Failure to comply may result in an order to stop work and open all traffic lanes and/or in the Department taking appropriate action to safely control traffic. The entire cost to control traffic, accrued by the Department due to the Contractor's noncompliance, will be deducted from moneys due, or to become due the Contractor on his contract.

The Contractor shall be responsible for 24-hour-per-day operation and maintenance of these signs on the project for the duration of the phases when the plan requires their use.

Payment for the above described item shall be at the contract unit price. Payment shall include all labor, materials, equipment, fuels, lubricating oils, software, hardware and incidentals to perform the above described work.

Item 614, Portable Changeable Message Sign, as per plan **6 Sign Month(s)**
Assuming 2 PCMS Sign(s) for 3 Month(s)

DESIGN AGENCY



DESIGNER

KHD

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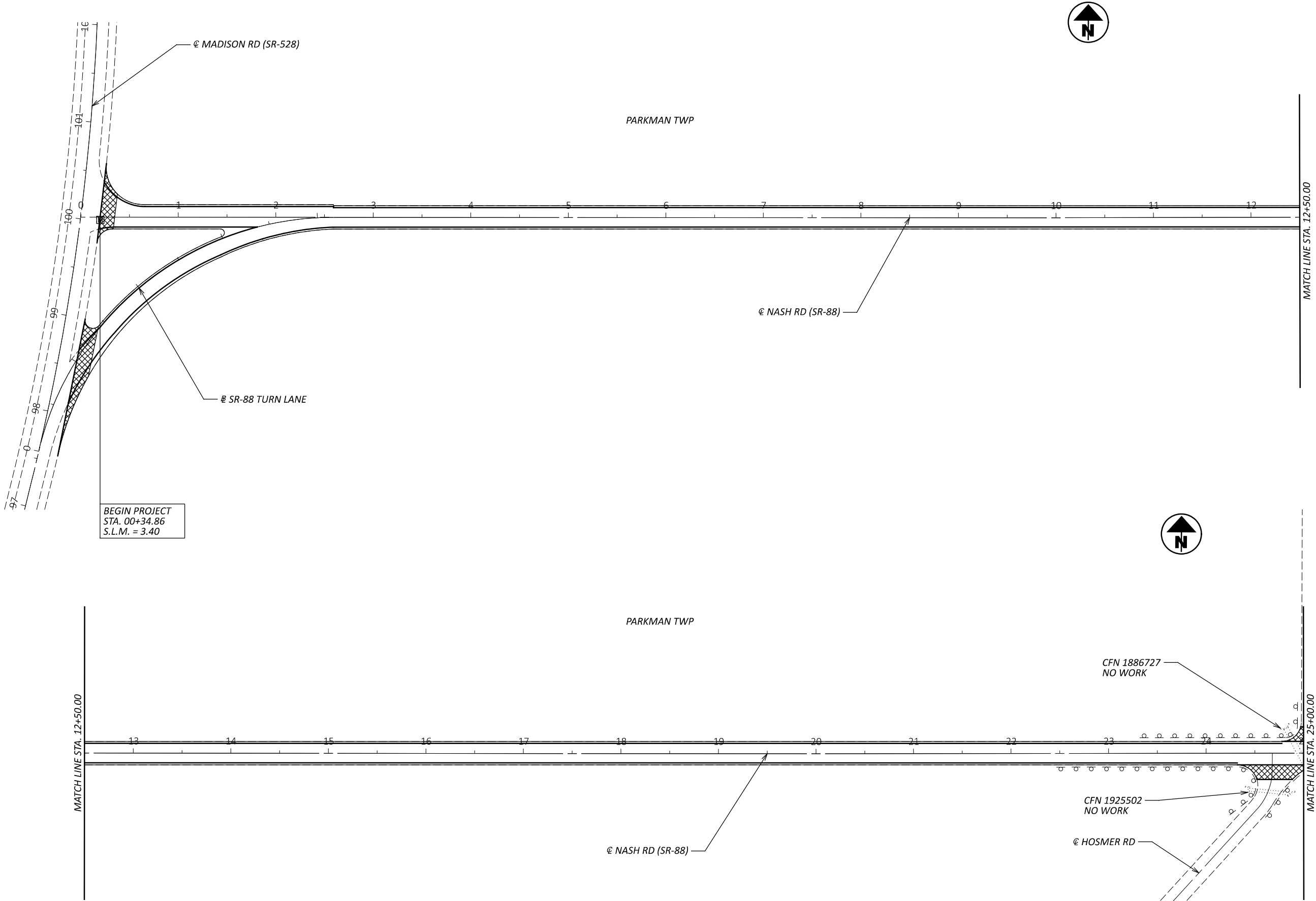
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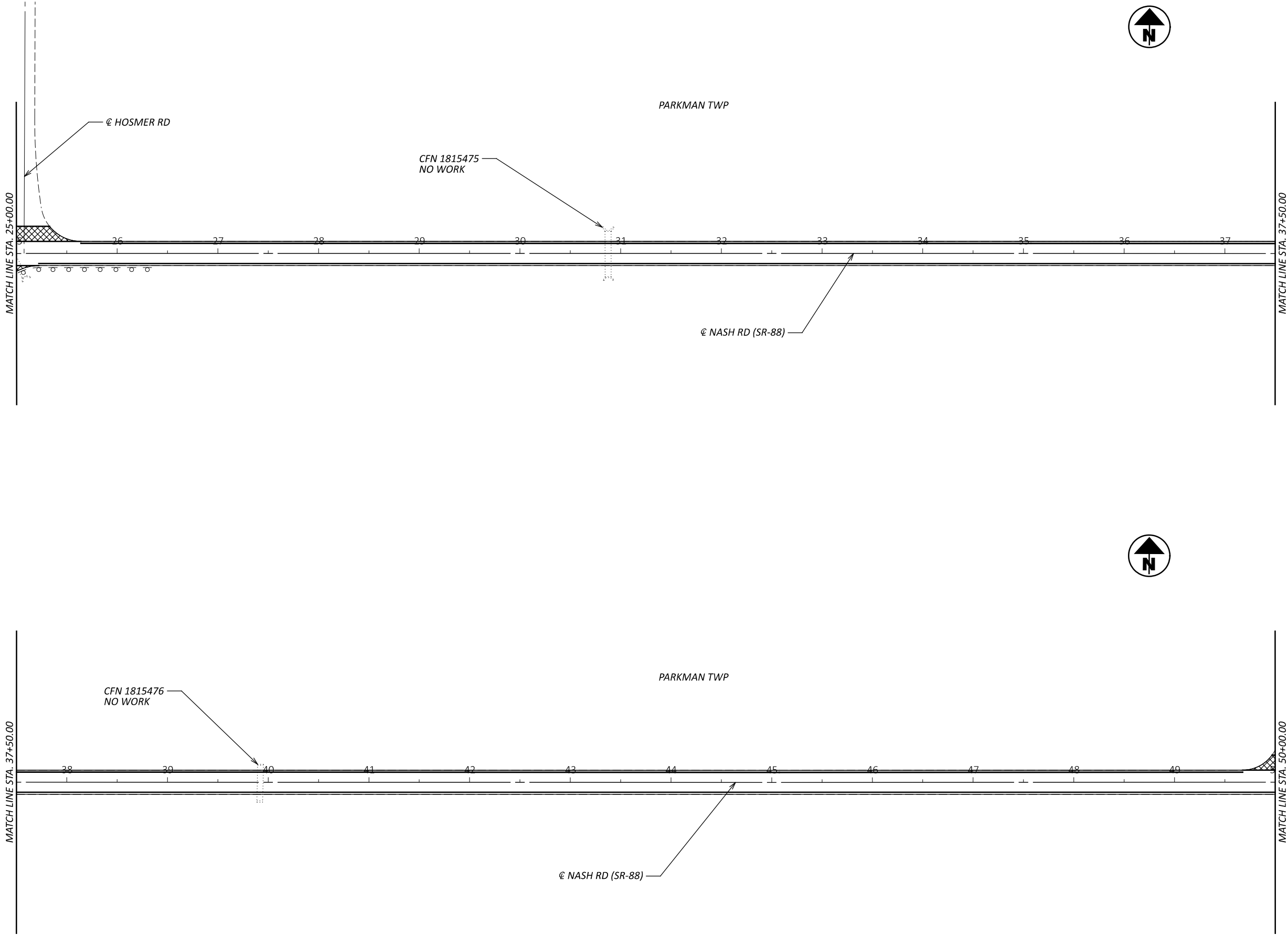
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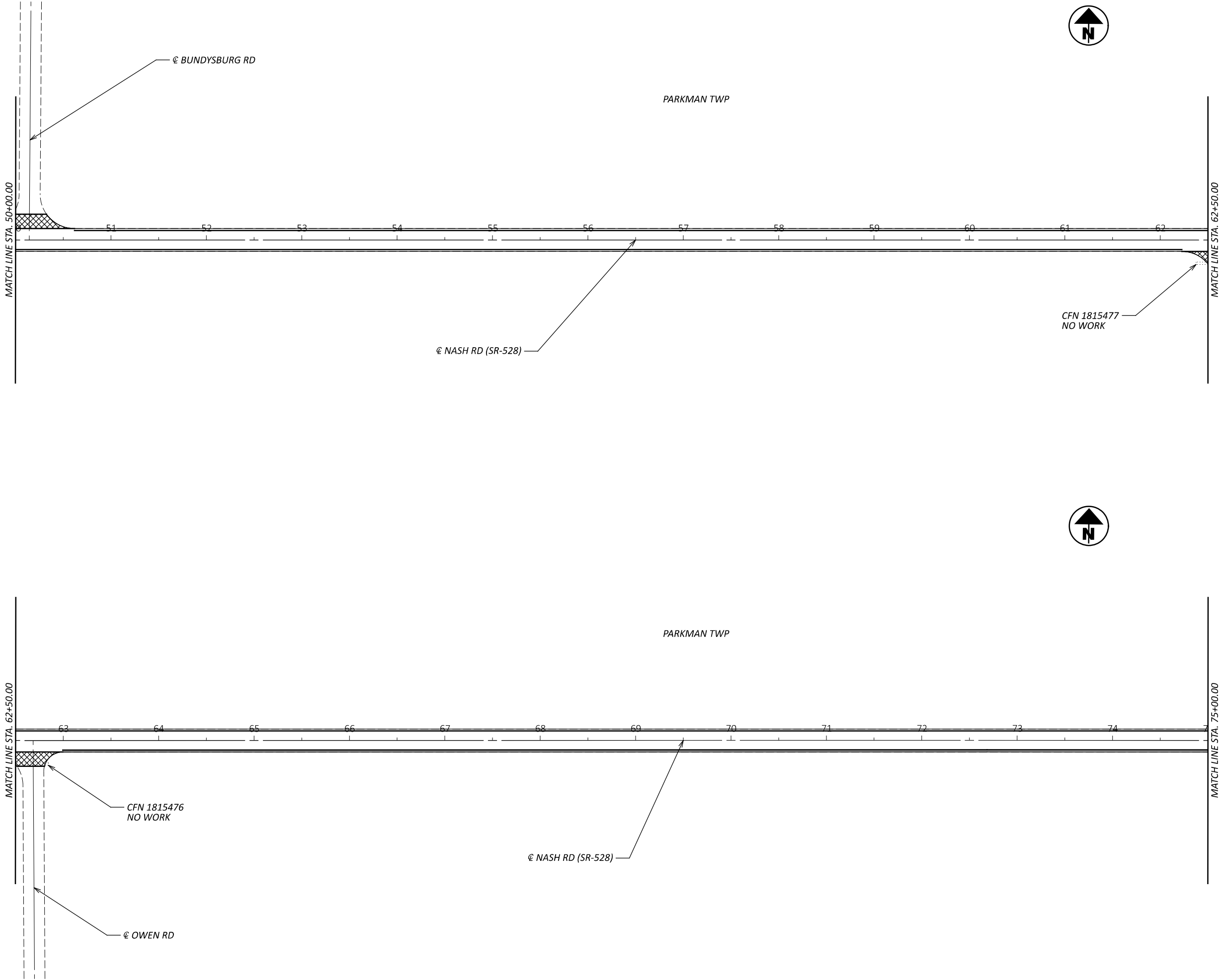
GENERAL SUMMARY	
DESIGN AGENCY	
	
DESIGNER	
KHD	
REVIEWER	
DAB 02-02-23	
PROJECT ID	
99684	
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PAVEMENT MARKING SUBSUMMARY	
DESIGN AGENCY	
	
DESIGNER	KHD
REVIEWER	DAB 02-02-23
PROJECT ID	99684
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DESIGN AGENCY

DESIGNER

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TOTAL

23

GENERAL PLANS

NASH RD (SR-88) STA. 50+00.00 TO 75+00.00

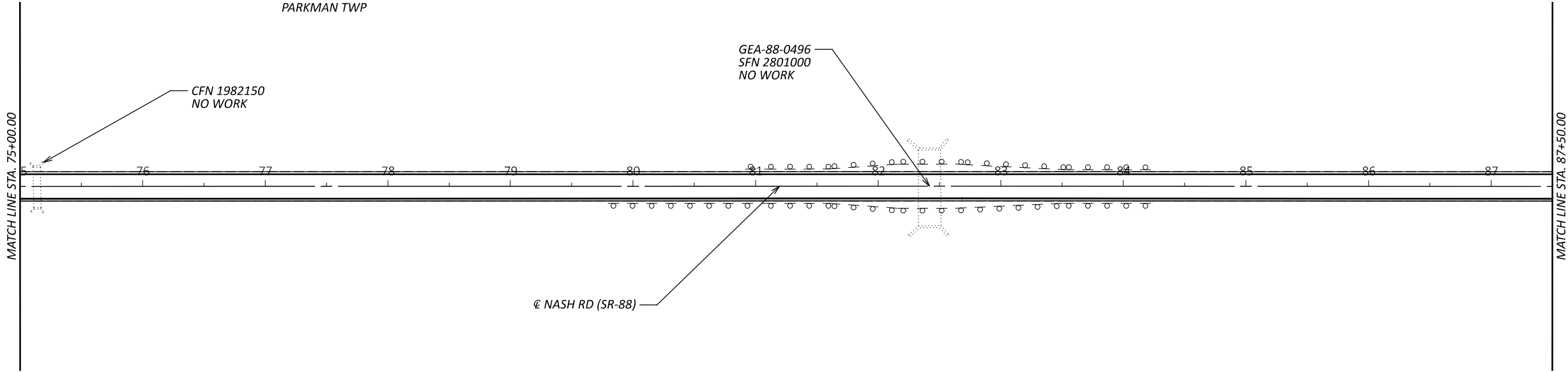
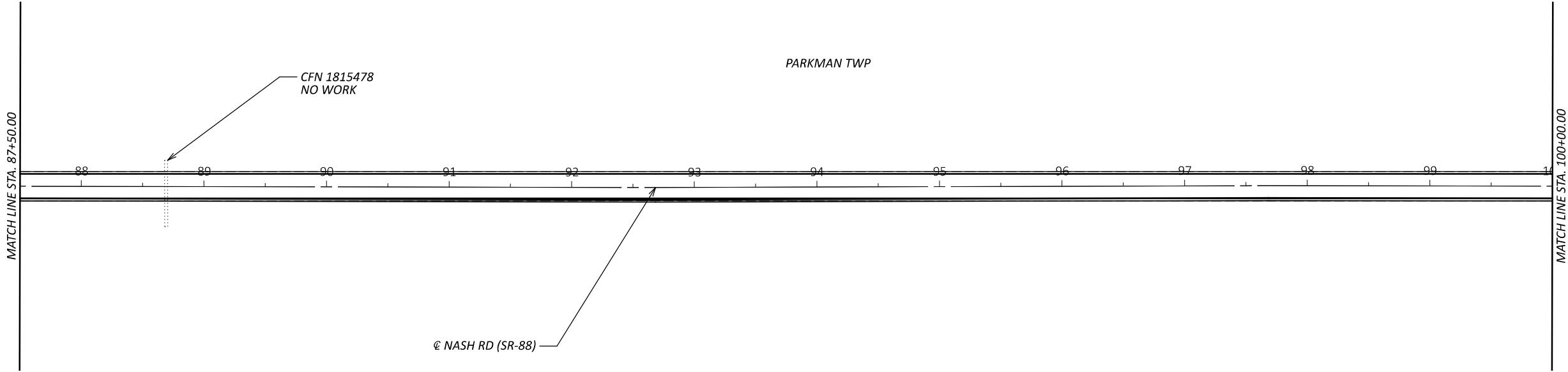
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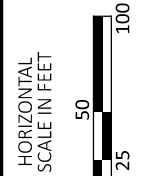
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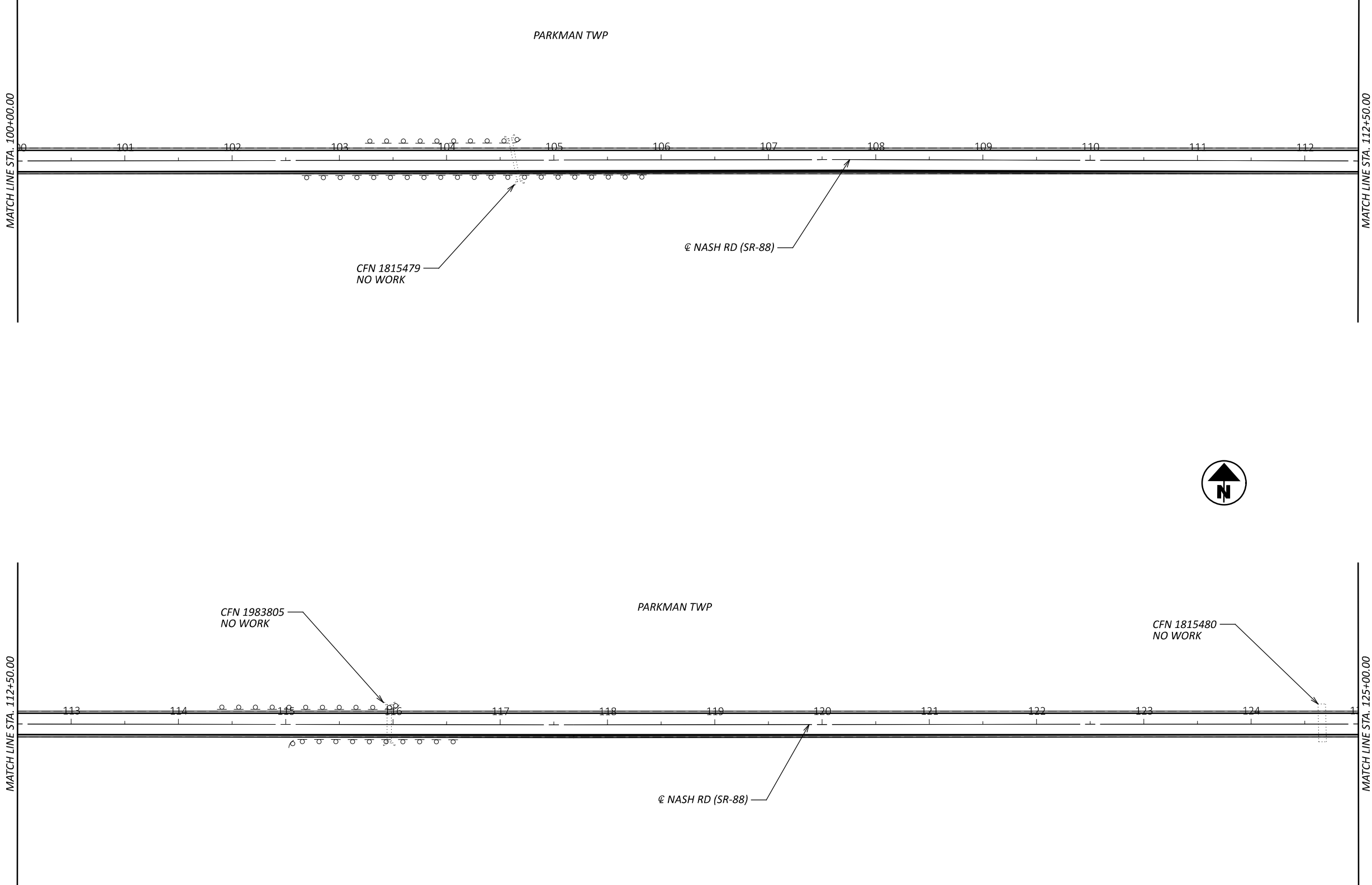
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TOTAL

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GENERAL PLANS
NASH RD (SR-88) STA. 75+00.00 TO 100+00.00





GENERAL PLANS
NASH RD (SR-88) STA. 100+00.00 TO 125+00.00

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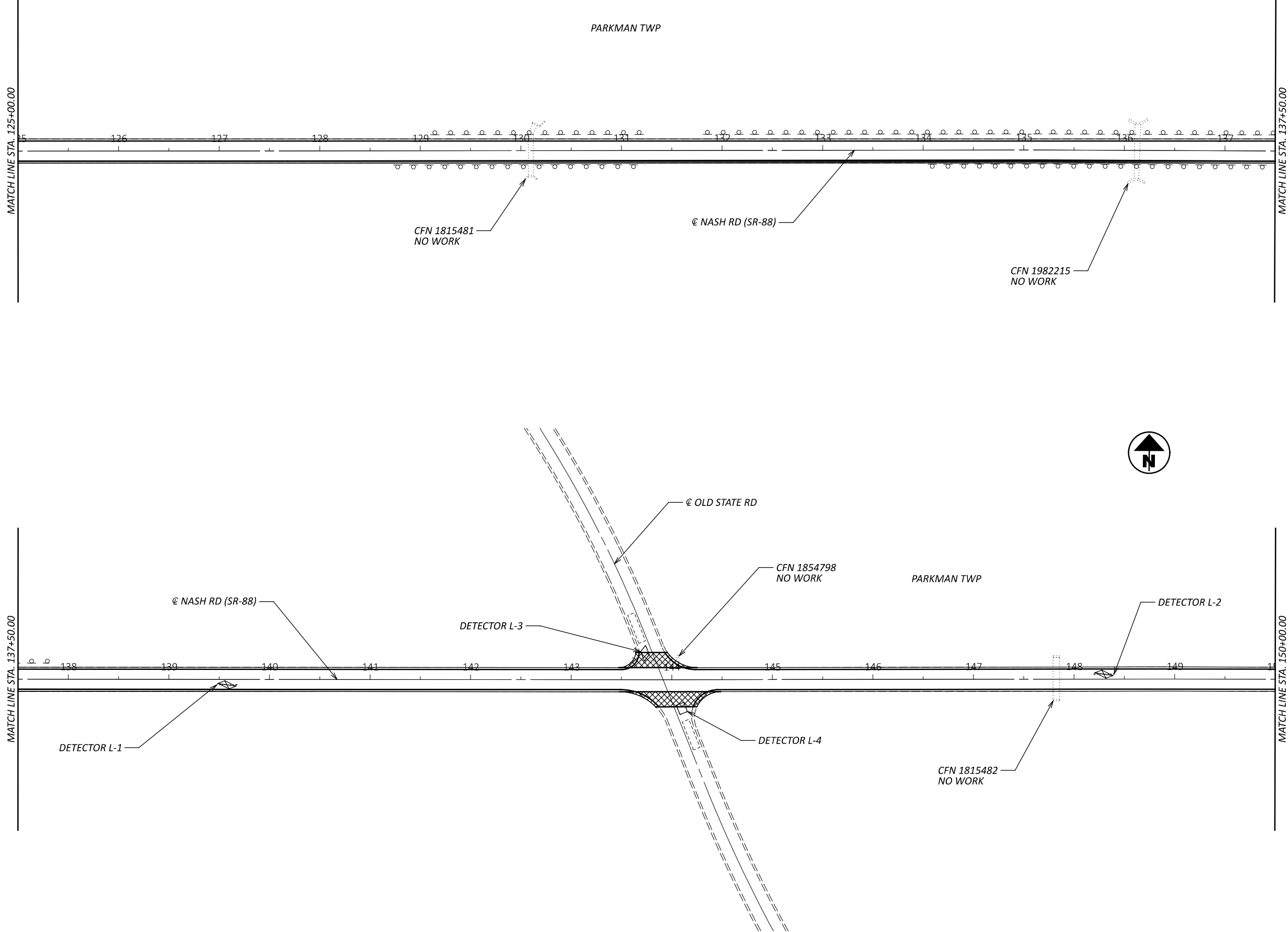
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TOTAL

23





GENERAL PLANS
NASH RD (SR-88) STA. 125+00.00 TO 150+00.00

DESIGN AGENCY



DESIGNER

KHD

REVIEWER

DAB 02-02-23

PROJECT ID

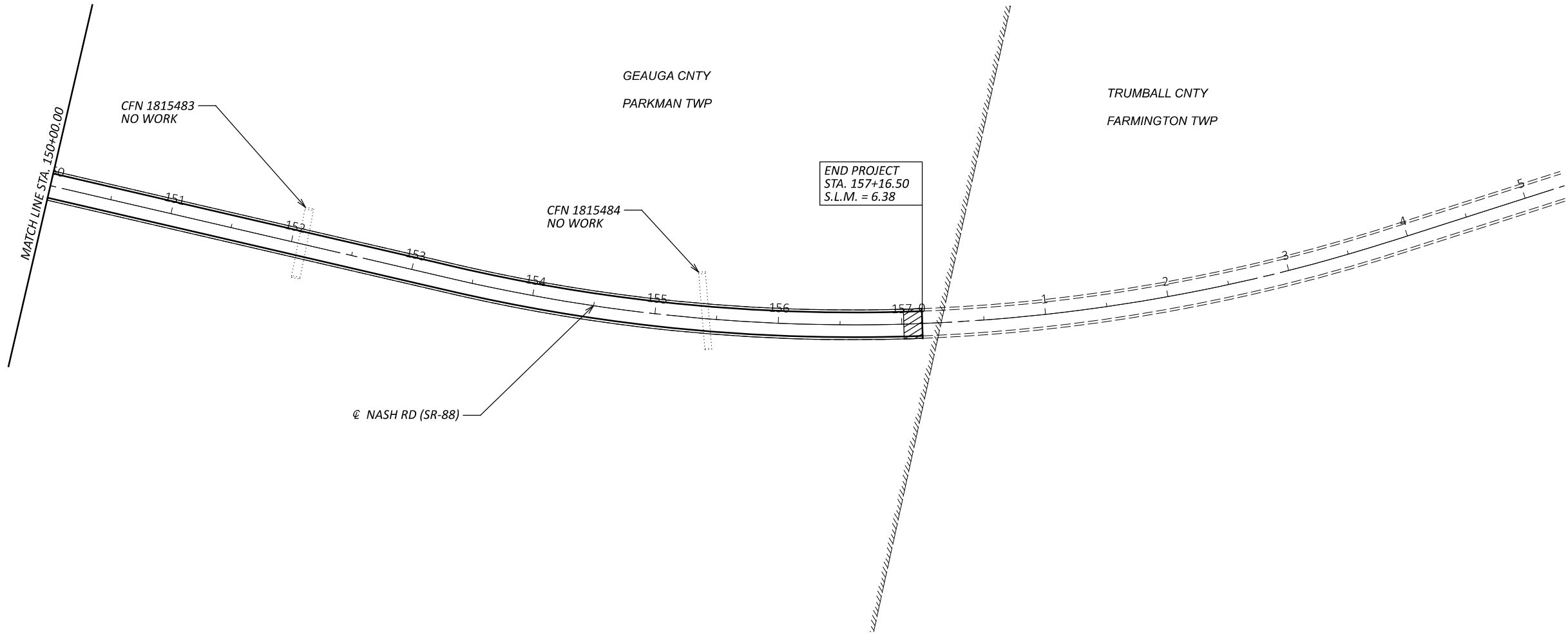
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TOTAL

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GENERAL PLANS
NASH RD (SR-88) STA. 150+00.00 TO 157+16.50

DESIGN AGENCY

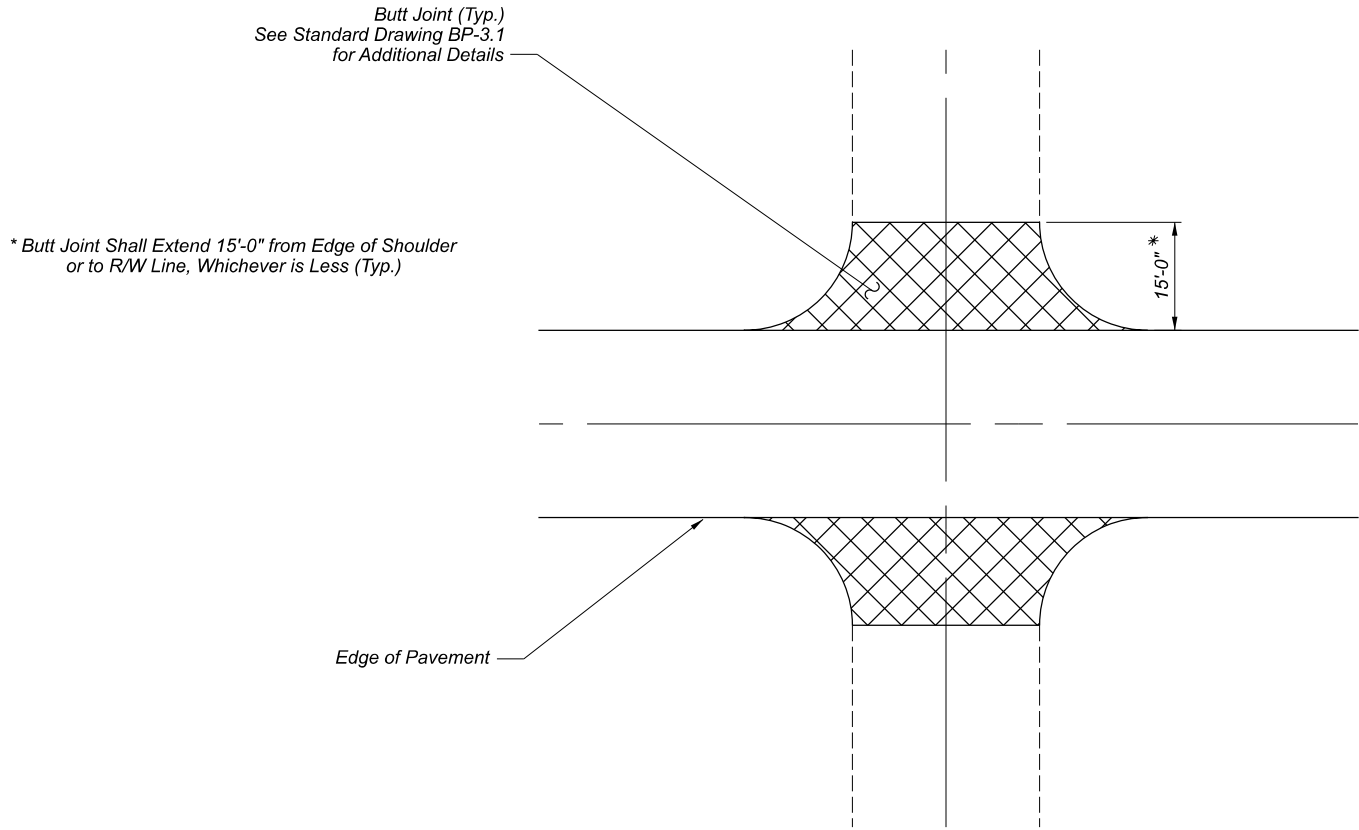


DESIGNER
KHD

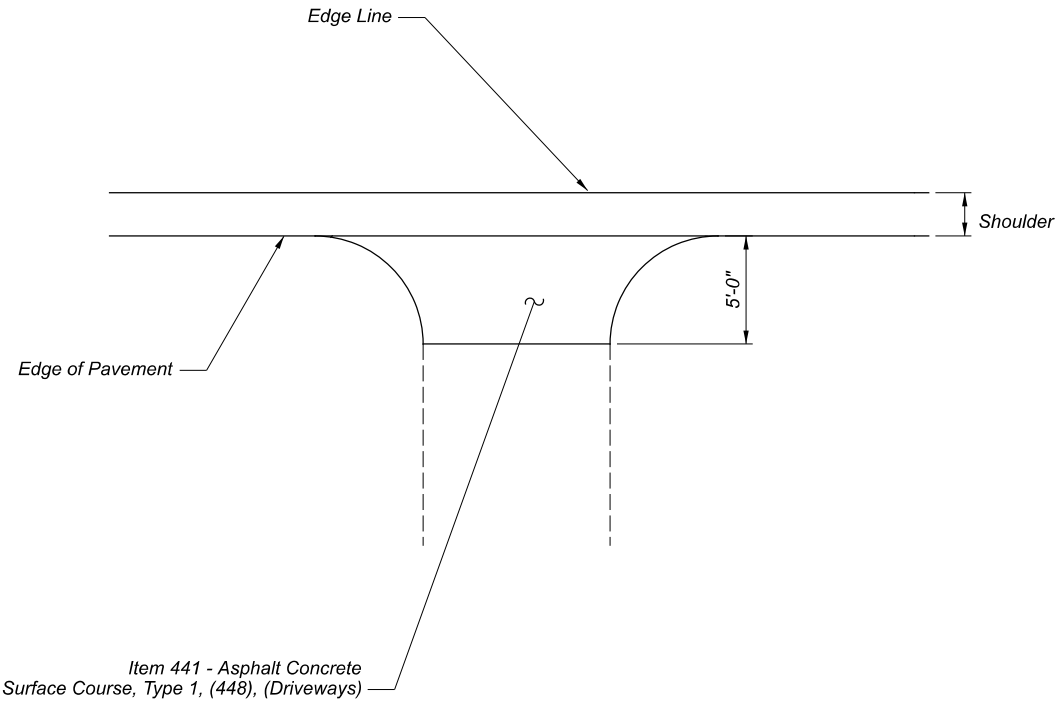
REVIEWER
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99684

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TYPICAL ASPHALT INTERSECTION DETAIL
CONCRETE INTERSECTION SIMILAR
BUTT JOINT SHALL END AT EXISTING JOINT IN CONCRETE PAVEMENT



DRIVEWAY APRON DETAIL

