

| Index of Sheets |                                   |
|-----------------|-----------------------------------|
| No.             | Description                       |
| Sheets          | Bridge Plan                       |
| A.1             | Title Sheet                       |
| B.1             | Typical Cross Sections            |
| D.1             | Plan View Legend                  |
| D.2             | IA 92 Plan and Profile            |
| J.1 - J.2       | Traffic Control and Detour Layout |
| VW.1            | Pipe Cross Sections               |
| W.1             | Cross Section Legend              |
| W.2-W.6         | IA 92 Cross Sections              |



PLANS OF PROPOSED IMPROVEMENT ON THE  
PRIMARY ROAD SYSTEM  
**KEOKUK COUNTY**  
CULVERT REPLACEMENT

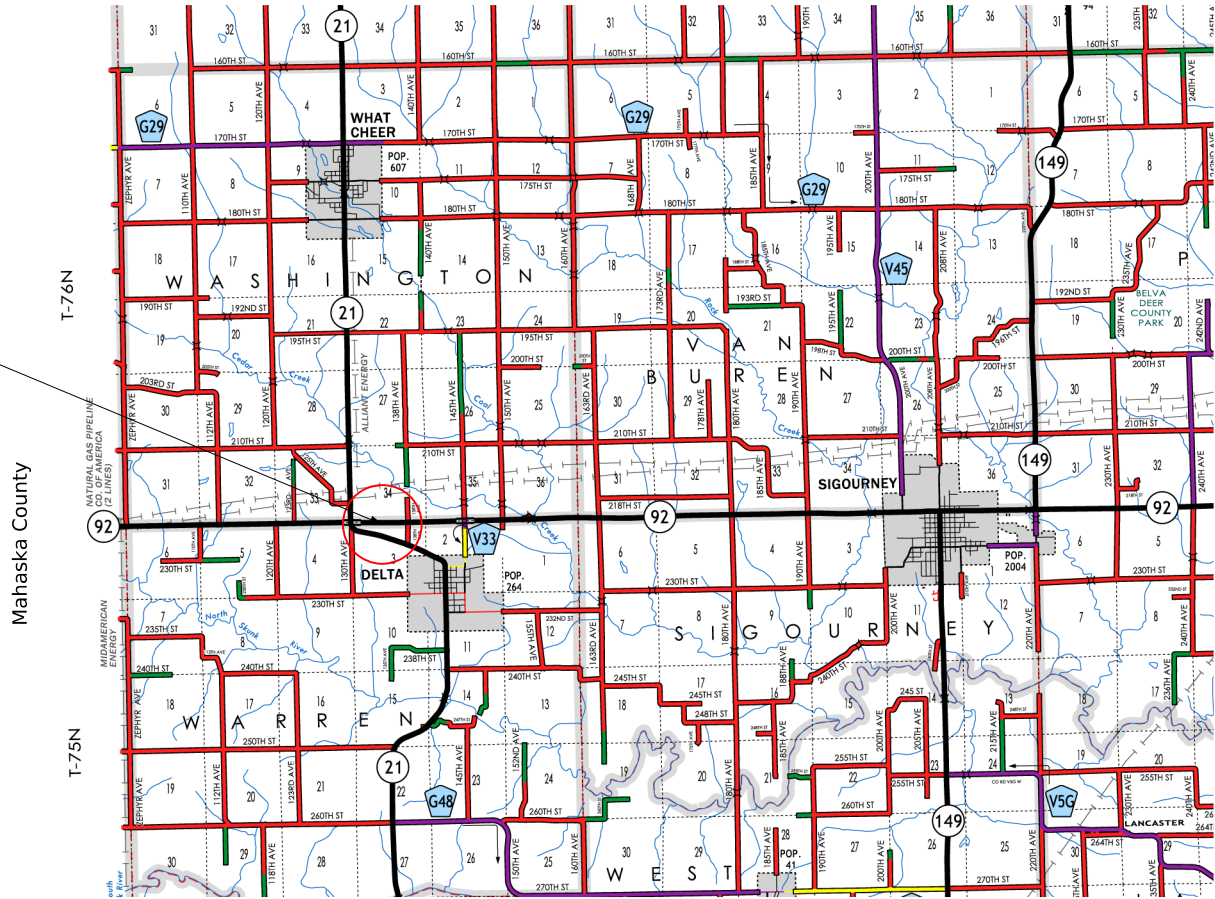
IA 92  
0.9 MILES E OF IA 21

Refer to the Plan Sheets for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



PROJECT LOCATION:  
STATION 203+86.8 &  
STATION 210+16.9



Design Data Rural

|           |              |
|-----------|--------------|
| 2023 AADT | 2,150 V.P.D. |
| 2022 AADT | 2,110 V.P.D. |
| TRUCKS    | 13.55 %      |



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Printed or Typed Name  
Daniel D. Kimball

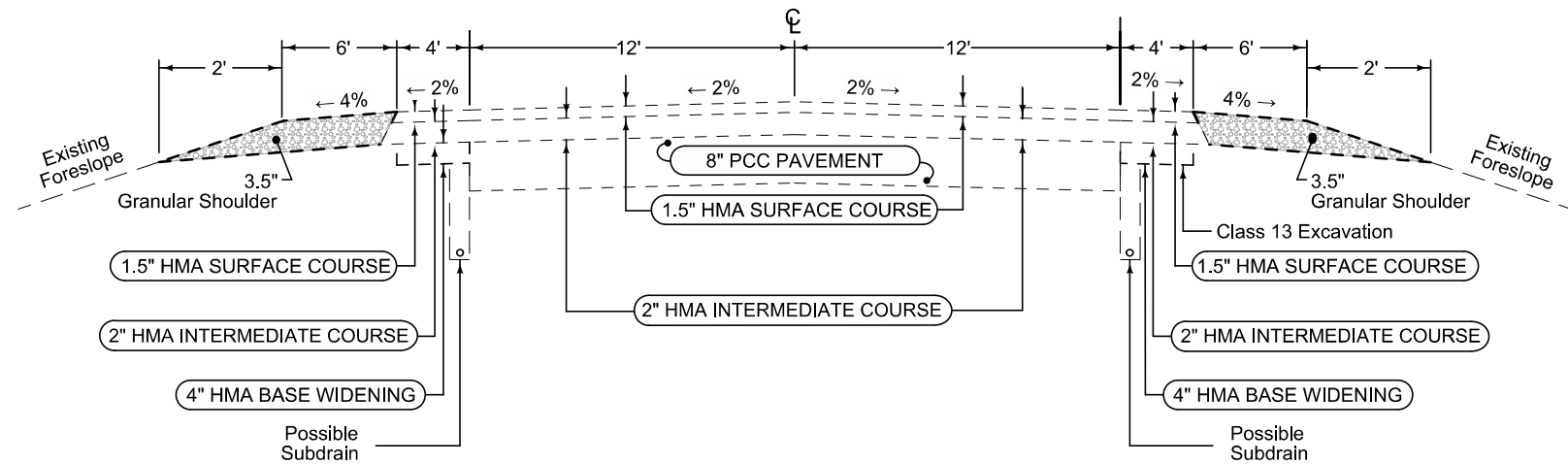
License renewal date is December 31,

XX-XX-XXXX  
Date

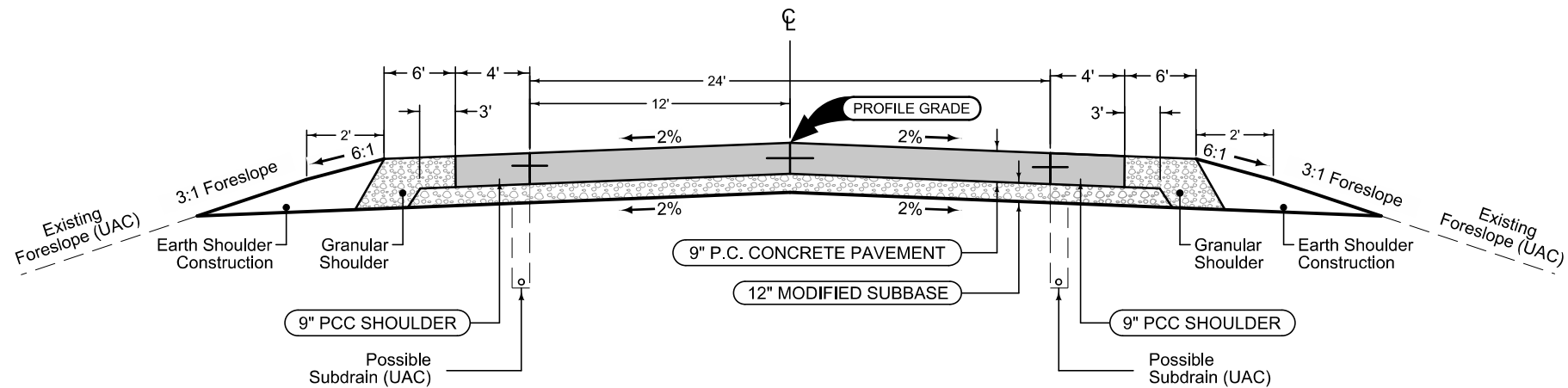
2025

Pages or sheets covered by this Seal:

All Sheets



**EXISTING TYPICAL SECTION**



**PROPOSED TYPICAL SECTION**

Mainline Jointing:  
 Transverse joints: CD at 17' spacing  
 Longitudinal joint: L-2

|                    |           |
|--------------------|-----------|
| 2P_<br>04-21-20    |           |
| STATION TO STATION |           |
| 203+10.00          | 204+31.00 |
| 209+77.00          | 210+53.00 |
|                    |           |

|  |                                   |
|--|-----------------------------------|
|  | Interstate Highway Symbol         |
|  | U.S. Highway Symbol               |
|  | Iowa Highway Symbol               |
|  | County Road Highway Symbol        |
|  | Evergreen Tree                    |
|  | Deciduous Tree                    |
|  | Fruit Tree                        |
|  | Shrub (Bushes)                    |
|  | Timber                            |
|  | Hedge                             |
|  | Stump                             |
|  | Swamp                             |
|  | Rock Outcrop                      |
|  | Broken Concrete                   |
|  | Revetment (Rip Rap)               |
|  | Cemetery                          |
|  | Grave                             |
|  | Cave                              |
|  | Sink Hole                         |
|  | Board Fence                       |
|  | Chain Link or Security Fence      |
|  | Wire Fence                        |
|  | Terrace                           |
|  | Earth Dam or Dike (Existing)      |
|  | Tile Outlet                       |
|  | Edge of Water                     |
|  | Existing Drainage                 |
|  | Right of Way Rail or Lot Corner   |
|  | Concrete Monument                 |
|  | Well                              |
|  | Windmill                          |
|  | Beehive Intake                    |
|  | Existing Intake                   |
|  | Existing Utility Access (Manhole) |
|  | Fire Hydrant                      |
|  | Water Hydrant (Rural)             |

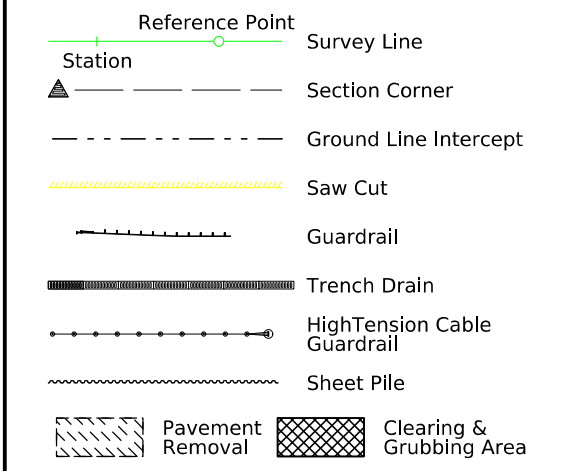
|                                                                                   |                              |
|-----------------------------------------------------------------------------------|------------------------------|
|  | Septic Tank                  |
|  | Cistern                      |
|  | L.P. Gas Tank (No Footing)   |
|  | Underground Storage Tank     |
|  | Latrine                      |
|  | Satellite TV Dish            |
|  | Water Hook Up                |
|  | Radio Tower                  |
|  | Tower Anchor                 |
|  | Guardrail (Beam or Cable)    |
|  | Guard Post (one or two)      |
|  | Guard Post (over two)        |
|  | Filler Pipe                  |
|  | Gas Valve                    |
|  | Water Valve                  |
|  | Speed Limit Sign             |
|  | Mile Marker Post             |
|  | Sign                         |
|  | Traffic Signal Control Box   |
|  | Rail Road Signal Control Box |
|  | Telephone Switch Box         |
|  | Electric Box                 |

| LINEWORK |     | Design Color No.                                                                    |                                                                     |
|----------|-----|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Green    | (2) |  | Existing Topographic Features and Labels                            |
| Blue     | (1) |  | Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation |
| Magenta  | (5) |  | Existing Utilities                                                  |

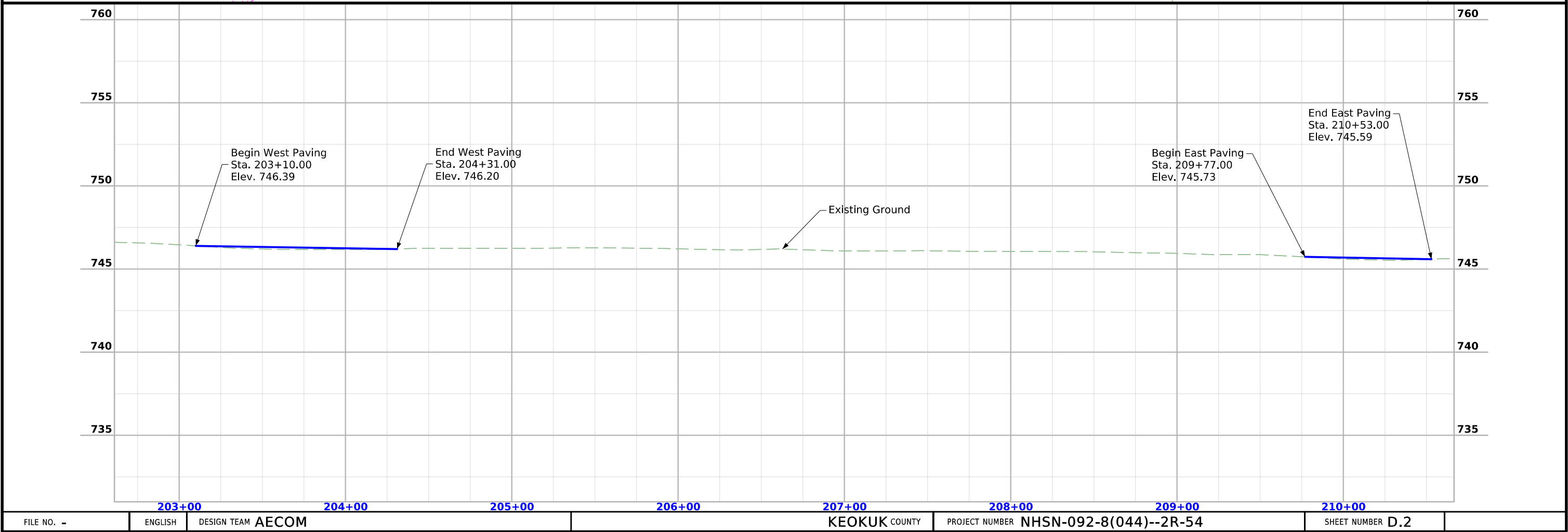
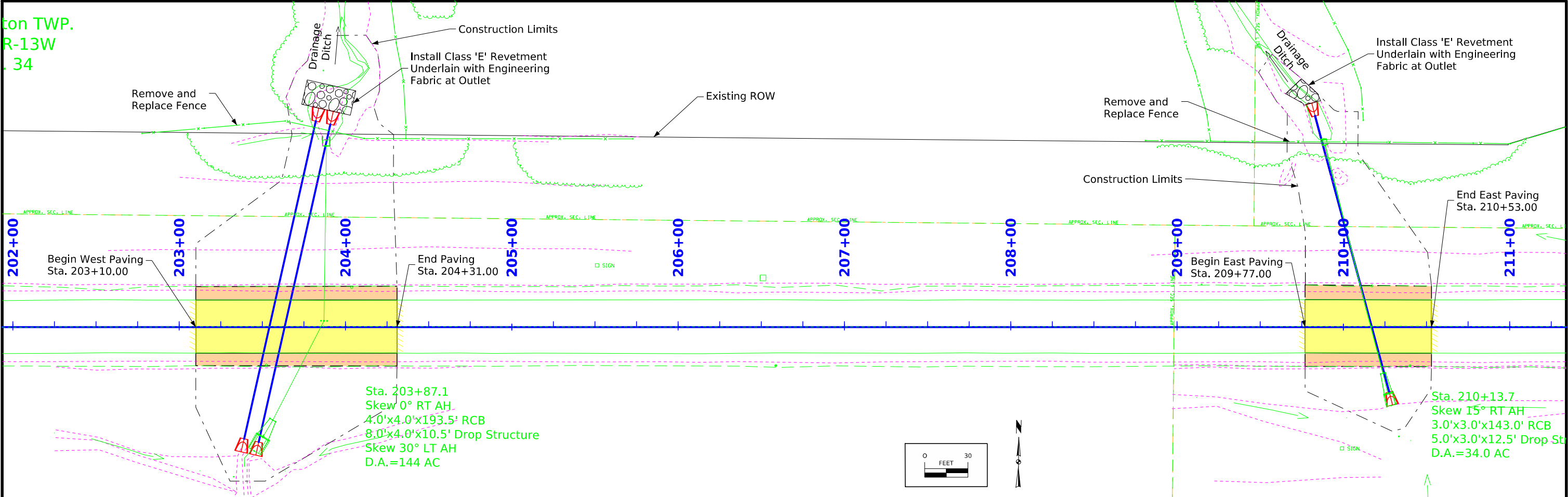
| SHADING       |       | Design Color No.                                                                    |                                               | Transparency |
|---------------|-------|-------------------------------------------------------------------------------------|-----------------------------------------------|--------------|
| Pink, Dark    | (13)  |  | Temporary Pavement Shading                    | 50%          |
| Yellow        | (4)   |  | Proposed Pavement Shading                     | 50%          |
| Orange        | (6)   |  | Proposed Granular Shading                     | 50%          |
| Orange        | (70)  |  | Proposed Shoulder Granular Shading            | 50%          |
| Yellow        | (68)  |  | Proposed Shoulder Paved Full Depth Shading    | 50%          |
| Yellow        | (132) |  | Proposed Shoulder Paved Partial Depth Shading | 50%          |
| Brown, Light  | (236) |  | Grading Shading                               | 50%          |
| Orange, Light | (134) |  | Proposed Granular Entrance Shading            | 50%          |
| Yellow        | (220) |  | Proposed Paved Entrance Shading               | 50%          |
| Tan           | (8)   |  | Proposed Sidewalk Shading                     | 50%          |
| Blue, Light   | (230) |  | Proposed Sidewalk Landing Shading             | 50%          |
| Pink          | (11)  |  | Proposed Sidewalk Ramp Shading                | 50%          |
| Red           | (3)   |  | Proposed Structure Shading                    | 50%          |
| Red           | (3)   |  | Delineates Restricted Areas                   | 0%           |

| LINEWORK    | Design Color No. |                                                                                                                     |
|-------------|------------------|---------------------------------------------------------------------------------------------------------------------|
| Green       | (10)             |  Existing Ground Line Profile    |
| Blue        | (1)              |  Proposed Profile and Annotation |
| Magenta     | (5)              |  Existing Utilities              |
| Blue, Light | (230)            |  Proposed Ditch Grades, Left     |
| Black       | (0)              |  Proposed Ditch Grades, Median   |
| Rust        | (14)             |  Proposed Ditch Grades, Right    |



|                                                                                       |                                    |
|---------------------------------------------------------------------------------------|------------------------------------|
|   | Proposed Right-of-Way Symbol       |
|  | Proposed Right-of-Way Line         |
|  | Existing Right of Way              |
|  | Existing and Proposed Right-of-Way |
|  | Easement and Existing Right-of-Way |
|  | Easement (Temporary) Symbol        |
|  | Easement (Temporary) Line          |
|  | Easement                           |
|  | Access Control                     |
|  | Property Line Symbol               |
|  | Property Line                      |

(COVERS SHEET SERIES D, E, F, & K)



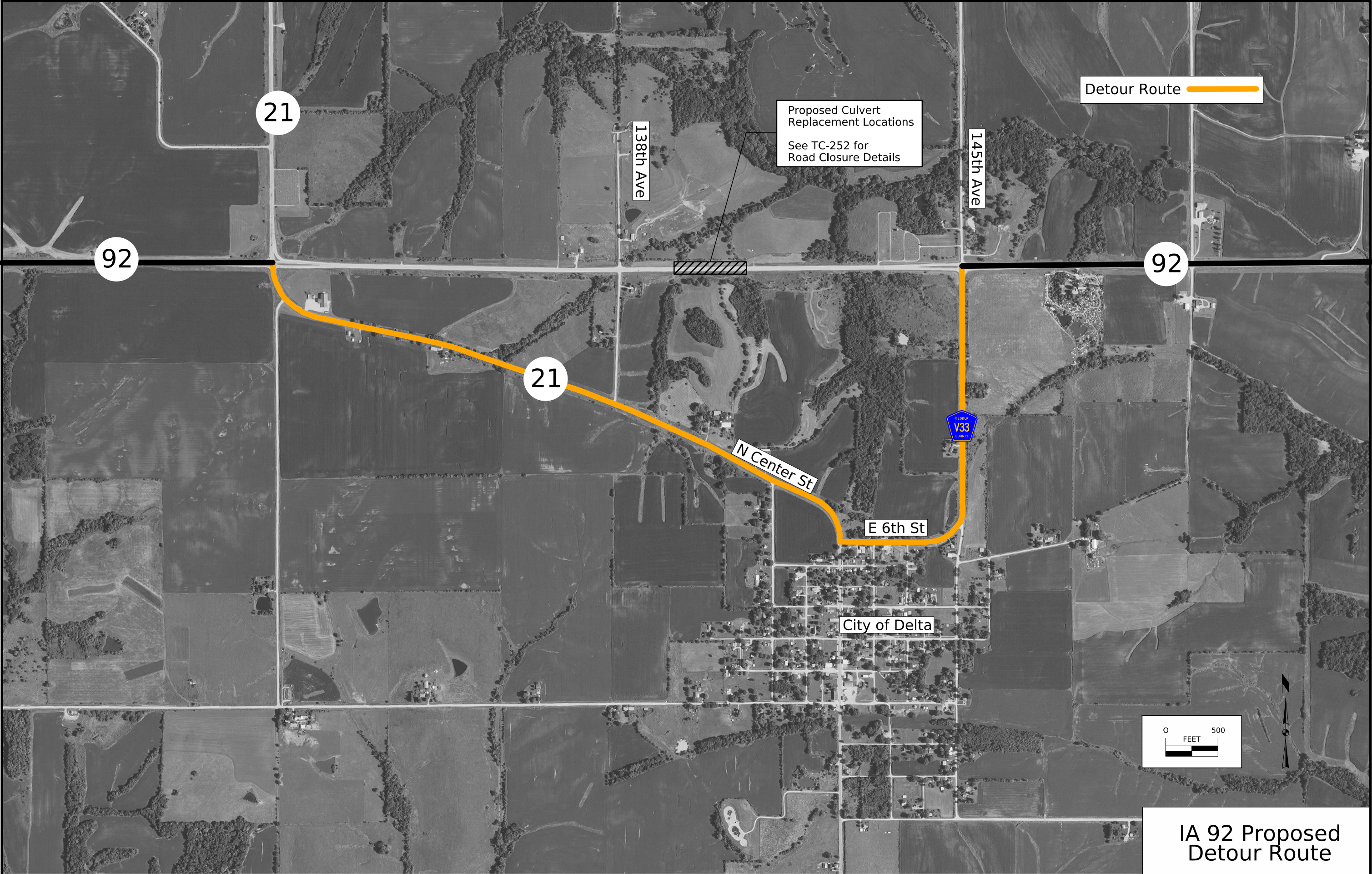
108 25  
3/28/24

| 511 TRAVEL RESTRICTIONS |       |           |        |                                                   |                 |             |                                                     |                        |                         |                             |                                          |                                      |         |
|-------------------------|-------|-----------|--------|---------------------------------------------------|-----------------|-------------|-----------------------------------------------------|------------------------|-------------------------|-----------------------------|------------------------------------------|--------------------------------------|---------|
| Line No.                | Route | Direction | County | Location Description                              | Feature Crossed | Object Type | Maint. Bridge No.<br>or Structure ID<br>or FHWA No. | Type of<br>Restriction | Existing<br>Measurement | Construction<br>Measurement | Construction<br>Measurement as<br>Signed | Projected As<br>Built<br>Measurement | Remarks |
|                         | IA-92 |           | Keokuk | No Travel Restrictions Expected on Offsite Detour |                 |             |                                                     | None                   |                         |                             |                                          |                                      |         |
|                         |       |           |        |                                                   |                 |             |                                                     |                        |                         |                             |                                          |                                      |         |

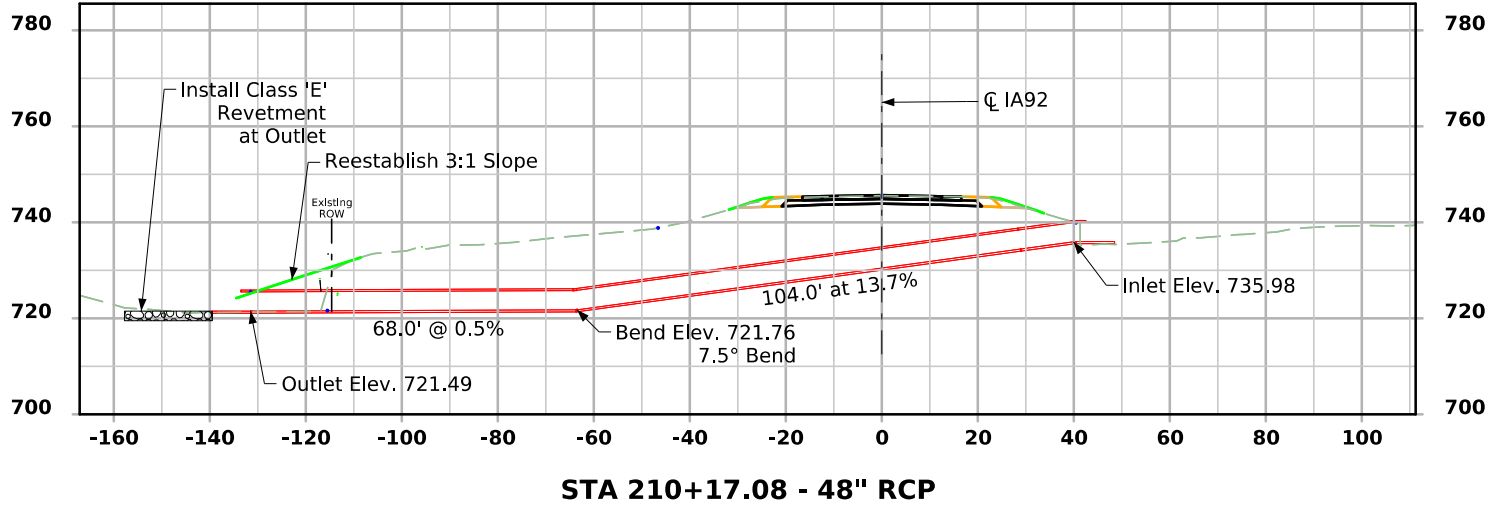
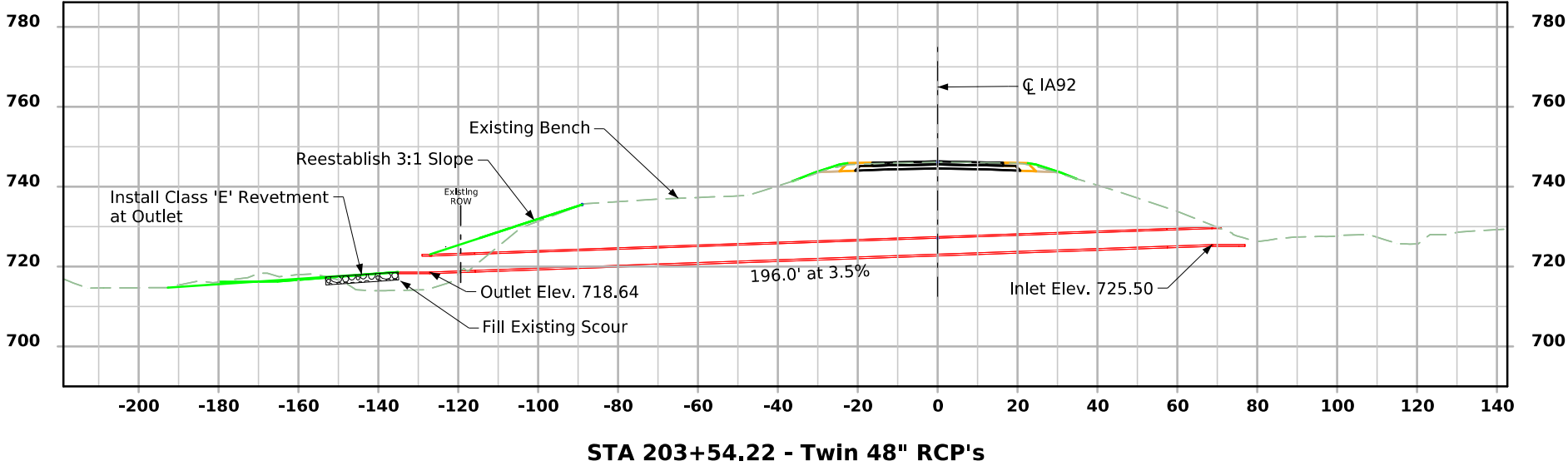
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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 108 23A<br>8/15/22                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TRAFFIC CONTROL PLAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <p>This project is not considered a Traffic Critical Project. No travel restrictions are expected on the offsite detour shown in these plans.</p> <p>While the culvert construction is being completed, IA-92 traffic shall be maintained via an off-site detour detailed in these plans. Detours are to be furnished, maintained and removed by the contractor. Refer to TC-252 for road closure and advanced signing details. Full road closure shall not last longer than 30 calendar days. If additional work is required outside of the roadway beyond the 30 calendar days, contractor shall utilize Standard Road Plan TC-202 for work within 15 feet of the traveled way.</p> <p>Contractor will furnish, install, maintain and remove detour signs. Detour sign layout and quantities shown in these plans are for reference only and exact location shall be determined in the field. All existing signs that conflict with the detour shall be covered. All material, equipment and labor shall be included in the Traffic Control bid item.</p> |

|                                                                                                                                                                                                 |              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| 111 01<br>10/14/22                                                                                                                                                                              |              |
| COORDINATED OPERATIONS                                                                                                                                                                          |              |
| Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area. |              |
| Project                                                                                                                                                                                         | Type of Work |
|                                                                                                                                                                                                 |              |

|                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 108 26A<br>8/15/22                                                                                                                                                                                                                                                                                                                                                 |
| STAGING NOTES                                                                                                                                                                                                                                                                                                                                                      |
| <p>Stage 1</p> <p>Install off-site detour signage on detour route before traffic begins use of the detour route.</p> <p>With traffic using detour, perform the culvert construction work. Off-site detour and road closure shall be limited to 30 calendar days.</p> <p>Stage 2</p> <p>Remove off-site signage.</p> <p>Reopen IA-92 to normal traffic pattern.</p> |



IA 92 Proposed  
Detour Route



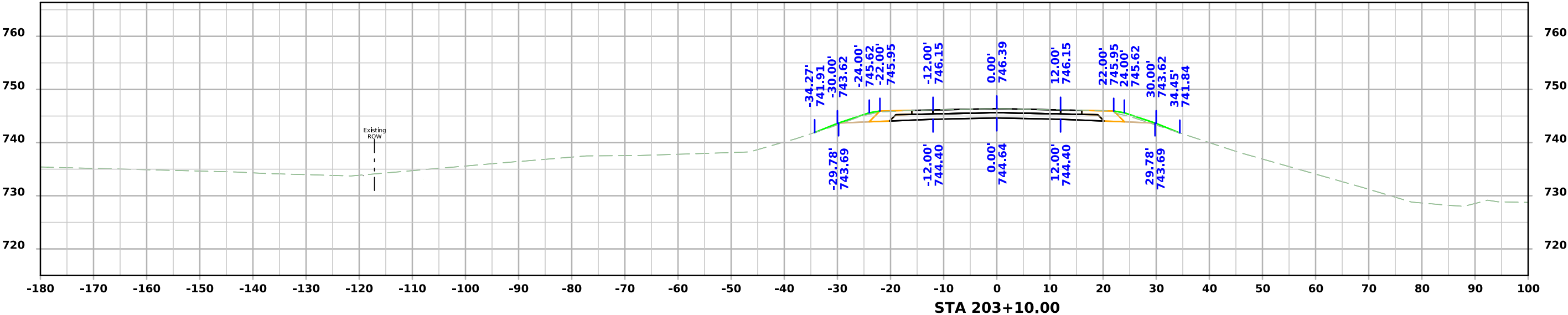
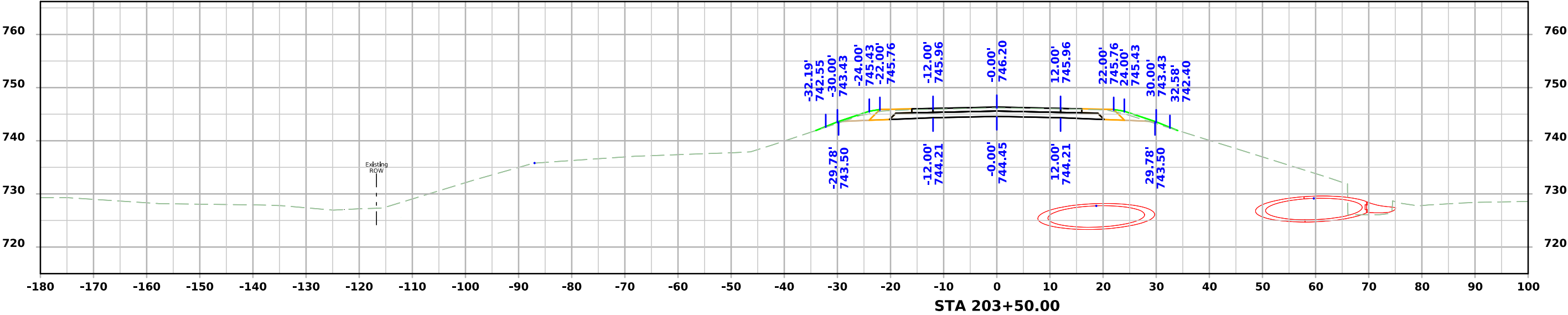
| CROSS SECTION VIEW COLOR LEGEND |                                 |                    |                                      |
|---------------------------------|---------------------------------|--------------------|--------------------------------------|
| Design Color No.                | Feature                         | Design Color No.   | Feature                              |
| Aggregate                       |                                 | Grading            |                                      |
| (64)                            | Choke Stone                     | (8)                | Behind Curb Cut                      |
| (42)                            | Engineering Fabric              | (6)                | Granular                             |
| (8)                             | Flooded Backfill                | (13)               | Granular Back Fill                   |
| (92)                            | Macadam Stone                   | (48)               | Rock Undercut                        |
| (20)                            | Modified                        | (8)                | Shoulder Earth Fill                  |
| (12)                            | Plowing Shaping                 | (2)                | Side Slopes                          |
| (14)                            | Porous Backfill                 | (226)              | Side Slopes Dressing                 |
| (8)                             | Revetment Class A               | Substrata          |                                      |
| (6)                             | Revetment Class B               | (128)              | Boulder                              |
| (62)                            | Revetment Class C               | (209)              | Boulder Removed                      |
| (188)                           | Revetment Class D               | (48)               | Broken Weathered                     |
| (28)                            | Revetment Class E               | (210)              | Broken Weathered Removed             |
| (12)                            | Shoulder Special Backfill       | (3)                | Core Out                             |
| (12)                            | Special Backfill                | (115)              | Core Out Remove Only                 |
| (20)                            | Subbase                         | (195)              | Core Out Remove and Replace          |
| (20)                            | Subbase Lower                   | (203)              | Existing Pavement                    |
| (20)                            | Subbase Upper                   | (184)              | Existing Pavement Remove Only        |
| (118)                           | Subgrade Treatment              | (200)              | Existing Pavement Remove and Replace |
| Asphalt                         |                                 | (6)                | Loam                                 |
| (207)                           | HMA Base Course                 | (211)              | Loam Removed                         |
| (207)                           | HMA Interim Course              | (80)               | Rock                                 |
| (207)                           | HMA Surface Course              | (212)              | Rock Removed                         |
| Bridge                          |                                 | (4)                | Select Sand                          |
| (0)                             | Bridge                          | (214)              | Select Sand Removed                  |
| Concrete                        |                                 | (3)                | Shale                                |
| (0)                             | Barrier Concrete                | (215)              | Shale Removed                        |
| (0)                             | Barrier Concrete Footing        | (10)               | Topsoil                              |
| (0)                             | Curb Gutter                     | (2)                | Topsoil Remove Only                  |
| (48)                            | Flowable Mortar                 | (4)                | Topsoil Remove and Replace           |
| (0)                             | Median Concrete                 | Unsuitable / Waste |                                      |
| (0)                             | PCC Pavement                    | (3)                | Unsuitable Type A                    |
| (0)                             | Sidewalk                        | (216)              | Unsuitable Type A Removed            |
| Existing                        |                                 | (13)               | Unsuitable Type B                    |
| (0)                             | Existing Pavement               | (217)              | Unsuitable Type B Removed            |
| Shoulder                        |                                 | (11)               | Unsuitable Type C                    |
| (209)                           | Shoulder HMA                    | (218)              | Unsuitable Type C Removed            |
| (0)                             | Shoulder PCC                    | (3)                | Waste                                |
| (6)                             | Shoulder Granular               | (219)              | Waste Removed                        |
| Structural                      |                                 |                    |                                      |
| (112)                           | Noise Wall                      |                    |                                      |
| (112)                           | Noise Wall Footing              |                    |                                      |
| (112)                           | Retaining Wall Back             |                    |                                      |
| (112)                           | Retaining Wall Back Excavate    |                    |                                      |
| (112)                           | Retaining Wall Face             |                    |                                      |
| (112)                           | Retaining Wall Front Excavate   |                    |                                      |
| (112)                           | Retaining Wall Front Footing    |                    |                                      |
| (112)                           | Retaining Wall MSE Gutter       |                    |                                      |
| (112)                           | Retaining Wall Reinforced Earth |                    |                                      |

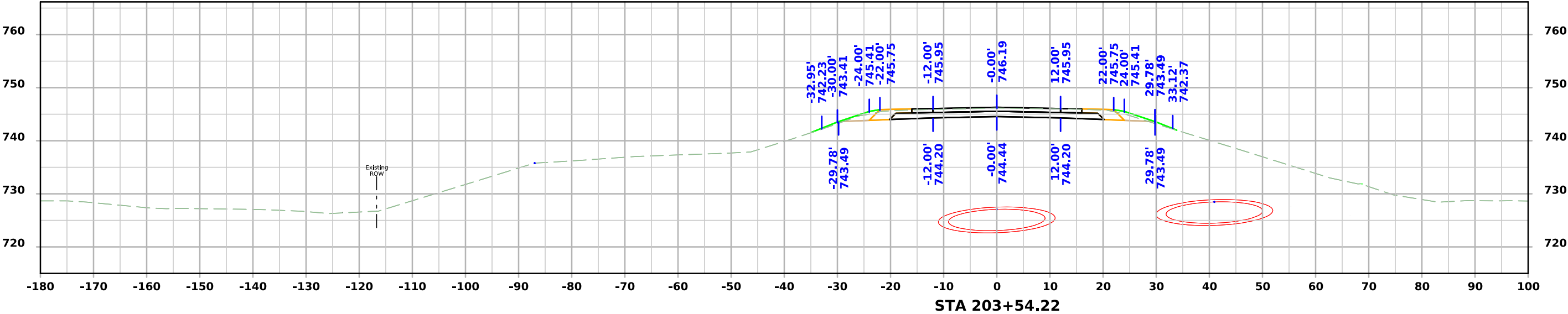
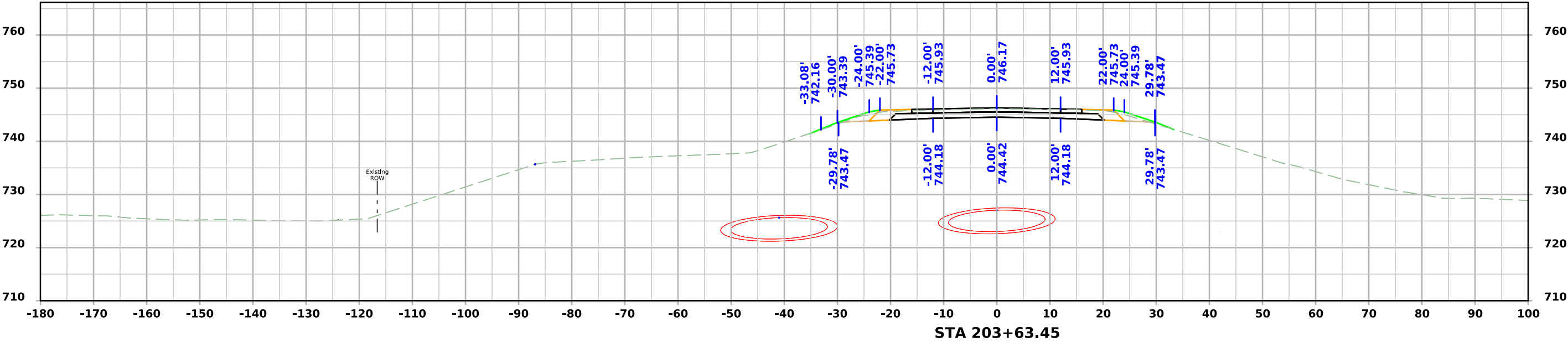
NOTES:

NOTES:

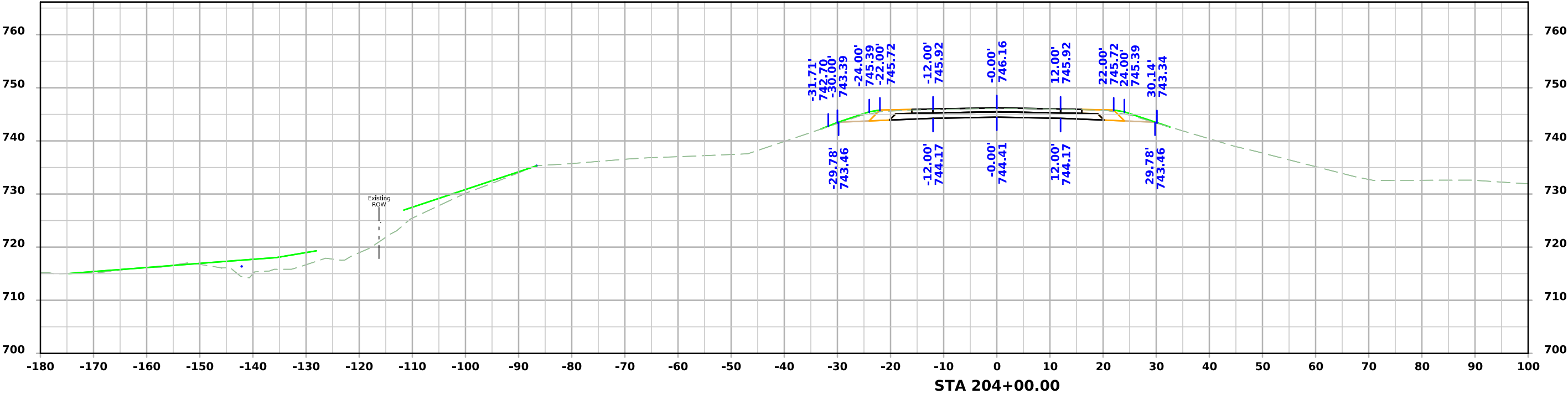
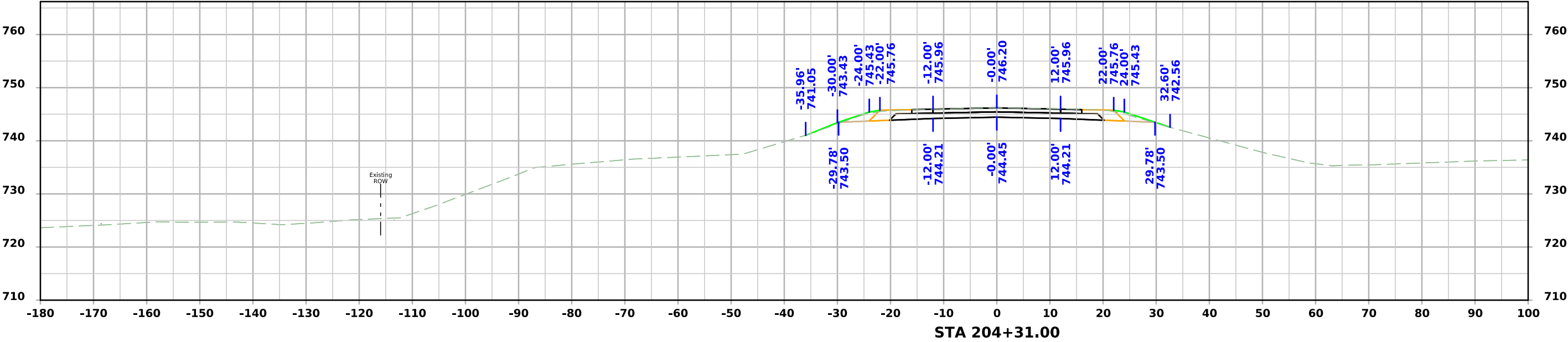
CROSS SECTIONS  
LEGEND AND INFORMATION SHEET

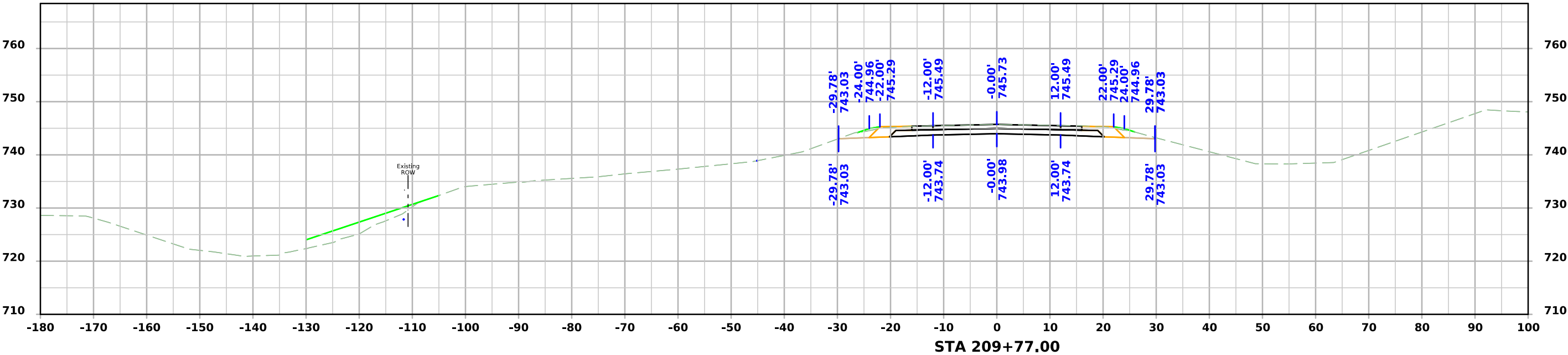
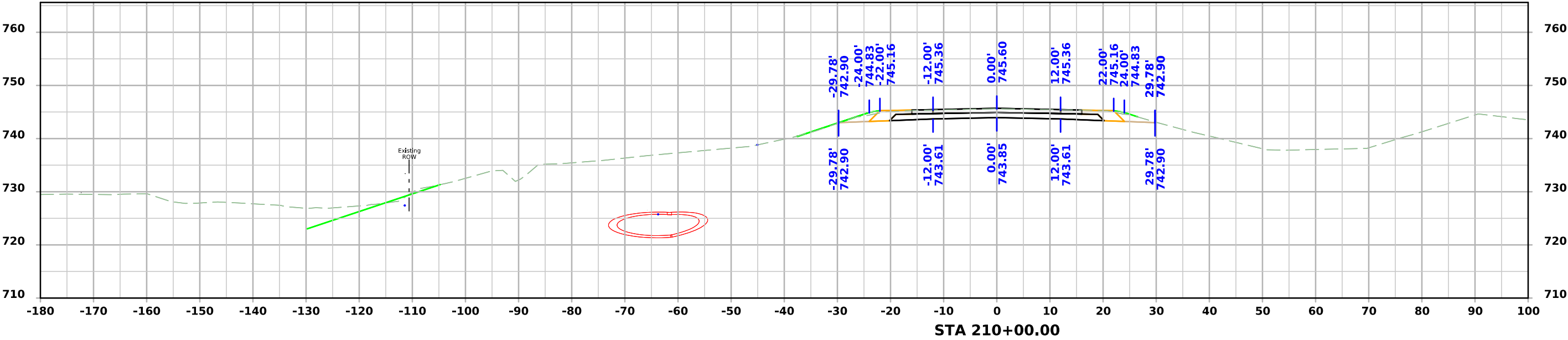
(COVERS SHEET SERIES W, X, Y, & Z)





ML - IA 92





ML - IA 92

