

SUBJECT: PLANS AND PROPOSAL ADDENDUMS

PROJECT: BR 2022(646)

CONTROL: 2121-05-046

COUNTY: EL PASO

LETTING: 06/02/2022

REFERENCE NO: 0524

**PROPOSAL ADDENDUMS**

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X PROPOSAL COVER

X BID INSERTS (SH. NO.: 1, 4, AND 6 OF 6 )

X GENERAL NOTES (SH. NO.: A, B, G, H, AND I THRU T )

X SPEC LIST (SH. NO.: ALL )

X SPECIAL PROVISIONS:

ADDED: 300-020

DELETED: 314-001

\_ SPECIAL SPECIFICATIONS:

ADDED:

DELETED:

X OTHER: PLAN SHEETS AND OTHER CHANGES

DESCRIPTION OF ABOVE CHANGES

(INCLUDING PLANS SHEET CHANGES)

\*\*\*\*\* PROPOSAL \*\*\*\*\*

PROPOSAL GUARANTEE CHANGED FROM \$45,000 TO \$52,000

\*\*\*\*\* BID INSERTS \*\*\*\*\*

ADDED THE FOLLOWING BID ITEMS: 310-6005, 545-6007, 3076-6066

DELETED THE FOLLOWING BID ITEMS: 314-6005, 545-6008

\*\*\*\*\* GENERAL NOTES \*\*\*\*\*

SHEET A: BASIS OF ESTIMATE REPLACED ITEM 314 WITH ITEM 310.

SHEET B: REPLACED INDIVIDUAL CONTACT FOR CONTRACTOR QUESTIONS.

DESCRIPTION OF ABOVE CHANGES

(INCLUDING PLANS SHEET CHANGES)

(CONTINUED)

SHEET G: ADDED LAST SENTENCE TO GENERAL NOTES 134, AND 247. ADD GENERAL NOTE 310. REMOVED GENERAL NOTE 314.

SHEETS H AND I: REMOVED GENERAL NOTES 427 AND 428.

SHEETS J THRU T: PARAGRAPHS SHIFTED DUE TO REVISIONS.

\*\*\*\*\* SPECIFICATIONS LIST \*\*\*\*\*

SHEET 1 OF 3: DELETE STANDARD ITEM 314 AND ADD STANDARD ITEM 310 PRIME COAT (300) (316) (3096).

ADD SPECIAL PROVISION TO ITEM 300 (300-020) AND DELETE SPECIAL PROVISION (314-001) FROM ITEM 314.

\*\*\*\*\* PLAN SHEETS \*\*\*\*\*

SHEET 002 (INDEX OF SHEETS): REPLACED SHEET 55 AND ADDED SHEET 55A.

SHEETS 004, 004C, 004D THRU 004I (GENERAL NOTES): REFER TO GENERAL NOTES CHANGES AS NOTED ABOVE.

SHEETS 005 AND 005A (E&Q SHEETS): REVISED ITEMS AS NOTED IN THE BID INSERTS ABOVE.

SHEET 006 (PROPOSED TYPICAL SECTIONS): REVISED DETAIL TO SHOW PRIME COAT IN LIEU OF EMULS ASPH AND ADDED TACK COAT.

SHEET 007 (QUANTITY SUMMARY): REVISED ITEMS AS NOTED IN THE BID INSERTS ABOVE.

SHEET 010A (EPIC): REVISION TO REQUIRED ACTION ON ASBESTOS NOTES.

SHEET 040 (PLAN AND PROFILE): DELETE ITEM 314-6005. ADD ITEMS 310-6005, AND 3076-6066.

SHEET 041 (BARRIER DETAILS): REPLACED ITEM 545-6008 WITH ITEM 545-6007.

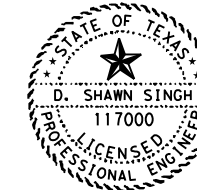
SHEET 055: REPLACED STANDARD TAU-II-R(N)-16 WITH STANDARD SHEET QGELITE(M10)(N)-20.

SHEET 055A: ADDED STANDARD SHEET REACT(M)-21.

# INDEX OF SHEETS

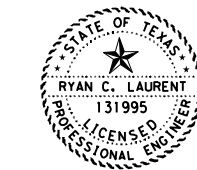
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THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ON THIS SHEET WITH A "\*" HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

D. Shawn Singh P.E. 5/19/2022  
NAME DATE



THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ON THIS SHEET WITH A "\*" HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

Ryan C. Laurent P.E. 5/19/2022  
NAME DATE

**Kimley»Horn** F-928

**IH 10 UNDERPASS  
AT FM 3380**

**INDEX OF SHEETS**

SHEET 1 OF 1

Texas Department of Transportation			
CONT	SECT	JOB	HIGHWAY
2121	05	046	IH 10
DIST	COUNTY		SHEET NO.
ELP	EL PASO		2

REVISED 5/19/22

DATE: 5/19/2022 9:57:07 AM  
FILE: \\kn-pw-bentley.com\kn-pw-01\Documents\01 Active Projects\TX-AUS-069284302 - IH 10 E.I. Paso\DesignData\4 - Design\Plan Set\1. General\FM3380\*GEN\*INDEX.dgn

\*\*\*\*\* **General Notes** \*\*\*\*\*

**Specification Data**

**Table 1**  
**Basis of Estimate**

Item	Description	Rate
310	Prime Coat (AE-P) (El Paso County)	0.15 gal./sq.yd.
3076	Dense-Graded Hot-Mix Asphalt	1 in. = 110 lb./sq.yd.
	Tack Coat (TRAIL) <sup>2</sup>	0.15 gal./sq.yd.

1. Deviation from the rates shown will require approval.
2. Tack Coat to be applied to each layer as directed by the Engineer. Rate shown is based on the desired residual application of 0.10 gal./sq.yd.

**General Requirements**

Maintain the entire project area in a neat and orderly manner throughout the duration of the work. Remove all construction litter and undesirable vegetation within the right of way inside the project limits. This work will be subsidiary to the various bid items.

General Project Description – This project consists of bridge replacement, roadway approach reconstruction, MBGF reconstruction, signing, and striping on FM 3380 over IH 10 in El Paso, Texas.


**Traffic**

Contact the Engineer or the City when construction operations are within 400 feet of a signalized intersection to determine/verify the location of loop detectors, conduit, ground-boxes, etc. Repair or replace any signal equipment damaged by construction operations. The method of repair or replacement shall be pre-approved and inspected. This work shall be completed at the Contractor's expense.

Inform the Engineer and the respective utility companies, when it becomes apparent that the utility lines will interfere with the work in progress.

The following Standard Detail sheets have been modified:

- **SIG-44 (MOD)**

 **Monica Ruiz, P.E.**  
District Construction Engineer  
[Monica.Ruiz@txdot.gov](mailto:Monica.Ruiz@txdot.gov)

**Aldo Madrid, P.E.**  
Director of Construction  
[Aldo.Madrid@txdot.gov](mailto:Aldo.Madrid@txdot.gov)

Contractor questions will be accepted through email, phone, and in person by the above individuals.

All contractor questions will be reviewed by the Engineer. Once a response is developed, it will be posted to TxDOT's Public FTP at the following Address:

<https://ftp.dot.state.tx.us/pub/txdot-info/Pre-Letting%20Responses/>

All questions submitted that generate a response will be posted through this site. The site is organized by District, Project Type (Construction or Maintenance), Letting Date, CCSJ/Project Name.

**Traffic**

Contact the Department's El Paso District Signal Shop at [txdotelplocates@txdot.gov](mailto:txdotelplocates@txdot.gov) to request all Department utility line locates within the project limits. The Signal Shop will locate one time only. Record locates for the purpose of refreshing and maintaining all markings throughout the duration of the project.

Contact City of El Paso Streets and Maintenance Department at [linespots@elpasotexas.gov](mailto:linespots@elpasotexas.gov) and [pavementcut@elpasotexas.gov](mailto:pavementcut@elpasotexas.gov) to request all City of El Paso utility line locates within project limits. The City will locate one time only. Record locates for refreshing and maintaining all markings throughout the duration of the project.

**General ITS**

Contact the Department's El Paso District Signal Shop at 915-790-4245 and [txdotelplocates@txdot.gov](mailto:txdotelplocates@txdot.gov) to request all Department utility line locates within the project limits. The Signal Shop will locate one time only, upon request. Record locates for the purpose of refreshing and maintaining all markings throughout the duration of the project.

- Video Interface Card (Input) (Extreme)
- Video Interface Card (Output) (Extreme)
- E&M Card (Extreme)
- Ethernet Interface Card (Extreme)
- Workstation (Extreme)
- Field Terminal Server

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If Contractor elects to use RAP material for backfill pavement edges, the RAP material must pass a 2" sieve. All material not passing sieve will be removed and disposed of properly. This shall be considered subsidiary to Item 134.

Apply emulsified asphalt at a 50/50 solution of water to emulsion over the disturbed area with backfill material. The application rate shall achieve a final emulsion rate of 0.15 gal/SY residual asphalt. This item shall be considered subsidiary to Item 134.

#### **Item 247 – Flexible Base**

A 20-ton vibratory pad foot roller will be required for compaction of lifts 10 inches or greater, unless otherwise directed by the Engineer.

When requested, stake with blue tops at 100-foot intervals, the lines, and grade shown in the plans. (For Item 247.4)

Provide flexible base that does not exceed a sulfate content of 1,000 ppm when tested in accordance with Tex-145-E. The sulfate concentration of water used for compaction shall not exceed 2,000 ppm.

△ TxDOT's flex base (RAP) stockpile is located at 1430 Joe Battle Blvd, El Paso, TX 79928.

#### **Item 310 – Prime Coat**

Cure prime coat for at least 48 hr. prior to beginning hot-mix asphalt placement operations.

Contractor is to place the seal coat or pavement course as indicated on plans within 14 calendar days of initial prime coat application. Otherwise, reapply prime coat as directed by the Engineer. Reapplication of the prime coat will be at the Contractor's expense.

#### **Item 416 – Drilled Shaft Foundations**

Construct retaining wall and drilled shaft at all abutments as per the approved method.

Stake all foundations and locations approved by the Engineer prior to commencement of drilling operations in order to ensure no conflicts with utility lines. Coordinate with the Utility companies for utility location within the project limits. Repair any damage to existing utilities to the satisfaction of the Engineer and the utility owner at no additional cost to the Department.

Use Class "C" concrete.

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Cover drilled shafts with plywood and delineate them with cones, to the satisfaction of the Engineer, when not working in them and after work hours.

Replace faulty anchor bolts as directed. Do not weld anchor bolts.

Remove spoils, daily, out of the drainage areas or as directed.

#### **Item 420 – Concrete Substructures**

Provide High Performance Concrete (HPC) and Epoxy Coated Reinforcement Steel for all bridge substructure elements (Deck, Bent Caps, Columns, Abutments, and Backwalls).

Slope top of Abutment Caps, Bent Caps, except the Bearing Seats, such that water will drain away from the backwall. Maintain bridge components so that they shall remain free of all debris during construction. This work will not be paid for directly but shall be considered subsidiary to the pertinent items.

#### **Item 421 – Hydraulic Cement Concrete**

Provide strength-testing equipment in accordance with the Contract controlling test(s). Furnish curing facilities adequately sized for this project as approved. Strength-testing equipment and curing facilities shall be at a location approved by the Engineer.

Furnish and properly maintain all test molds. Furnish test molds meeting the requirements of Tex-447-A. The test molds must be ready for use when needed. The Contractor will be responsible for curing and transporting concrete specimens as directed. Furnish proper equipment to remove concrete specimens from the molds. For all concrete items, provide a wheelbarrow or other acceptable container to the Engineer. This will not be paid directly, but will be subsidiary to the various bid items.

Obtain approval for all concrete mix designs and concrete aggregate sources.

Provide sulfate-resistant concrete for all structural concrete in contact with soil or groundwater.

Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water at designated areas approved by the Engineer.

#### **Item 422 – Concrete Superstructures**

Provide High Performance Concrete (HPC) with Air Entrainment, and Epoxy Coated Reinforcement Steel for all bridge superstructure elements (Bridge Deck, Bridge Rail, and Bridge Approach Slabs).

**Item 432 – Riprap**

Wire mesh and fibers for concrete will not be allowed on this project for this Item. Reinforce all concrete riprap using bar reinforcement conforming to Item 440, "Reinforcement for Concrete," as shown on the plans, or as directed.

Finish concrete riprap with a smooth (wood float) finish, unless otherwise directed.

**Item 502 – Barricades, Signs, and Traffic Handling**

Prior to beginning construction, the Engineer will approve the routing of traffic and sequence of work.

Additional signs and barricades, placed as directed, will be considered subsidiary to this Item.

In accordance with Section 7.2.6.1, designate, in writing, a Contractor Responsible Person (CRP) and a CRP alternate to take full responsibility for the set-up, maintenance, and necessary corrective measures of the traffic control plan. The CRP or CRP alternate must be present at site and implement the initial set up of every traffic control phase/stage, at each location, and/or each call out, for the entire duration of the project.

At the written request of the Engineer, immediately remove the CRP or CRP alternate from the project if, in the opinion of the Engineer, is not competent, not present at initial TCP set-ups, or does not perform in a proper, skillful, or safe manner. These individuals shall not be reinstated without written consent of the Engineer.

CRP and CRP alternate must be trained using Department approved training. Provide a copy of the certificate of completion to the Engineer for project records. Refer to Table 2 for Department approved Training.

**Table 2**

**Contractor Responsible Person and Alternate**

Provider	Course Number	Course Title	Duration	Notes
American Traffic Safety Services Association	TCS	Traffic Control Supervisor	2 days	
National Highway Institute	133112	Design and Operation of Work Zone Traffic Control	1 day	Both courses are required to meet minimum required training.
	133113	Work Zone Traffic Control for	1 day	

		Maintenance Operations		
Texas Engineering Extension Services	133112A	Design and Operation of Work Zone Traffic Control	3 days	
University of Texas Arlington Division for Enterprise Development	WKZ421	Traffic Control Supervisor	16 hours	Contact UTA for training needs.

All contractor workers involved with the traffic control implementation and maintenance must participate and complete a Department approved training course. Provide a copy of the certificate of completion to the Engineer for project records. Refer to Table 3 for Department approved training.

**Table 3**

**Other Work Zone Personnel**

Provider	Course Number	Course Title	Duration	Notes
American Traffic Safety Services Association	TCT	Traffic Control Technician	1 day	
Texas Engineering Extension Services	HWS002	Work Zone Traffic Control	16 hours	Identical to HWS-410. Counts for 3 year CRP requirement.
National Highway Institute	133116	Maintenance of Traffic for Technicians	5 hours	Web based
National Highway Institute	134109-I	Maintenance Training Series: Basics of Work Zone Traffic Control	1 hour	Free, Web based
University of Texas at Arlington, Division for Enterprise Development	WKZ100	Work Zone Safety: Temporary Traffic Control	4 hours	Note name change. Free, Web based

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TxDOT/AGC Joint Development	N/A	Safe Workers Awareness	16 minutes	Videos available through AGC of Texas offices. English & Spanish
		Highway Construction Work Zone Hazards	18 minutes	
AGC America	N/A	Highway Work Zone Safety Training	1 day	
Texas Engineering Extension Service	HWS400	Temporary Traffic Control Worker	4 hours	Contact TEEX, if interested in course
TxDOT/AGC Joint Development	N/A	Work Zone Fundamentals	10 minutes	Videos available through ACT of Texas offices. English & Spanish

Contractor may choose to train workers involved with the traffic control implementation and maintenance with a contractor developed training in lieu of Department approved training. Contractor developed training must be equivalent to the Department approved training shown in Table 2. Provide the Engineer a copy of the course curriculum for pre-approval, prior to conducting the contractor developed training. Provide the Engineer a copy of the log of attendees after training completion for project records.

Existing regulatory signs, route marker auxiliaries, guide signs, and warning signs that must be removed due to widening shall be relocated temporarily and erected on approved supports at locations shown in the plans, or as directed. This work will not be paid for directly, but considered subsidiary to this Item.

Notify the Department officials when major traffic changes are to be made, such as detours. Coordinate with the Department on all traffic changes. Advance notification for the following week's work must be made by 5 P.M. on Wednesdays.

Contractor to coordinate with PIO two weeks before any detour.

If Law Enforcement Personnel is required by the Engineer, coordinate with local law enforcement as directed or agreed. Complete the weekly tracking form provided by the Department and submit invoices with 5% allowance for Law Enforcement payments by Contractor that agree with the tracking form for payment at the end of each month where approved services were provided.

Provide access to intersecting side roads and driveways at all times, unless otherwise directed.

Any approved change to the sequence of work or TCP, must be signed and sealed by a Contractor's Licensed Professional Engineer assuming full responsibility for any additional barricade signs and devices needed.

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Use striping operations to channelize traffic into the newly completed roadway, as directed. Maintain shoulders and median areas in a condition capable of serving as emergency paths, as approved. This work will be subsidiary to this Item.

Use portable changeable message signs (PCMS) to alert public of construction two weeks prior to construction.

Use flaggers when directed. Provide two-way radio communication for all flaggers.

Place and maintain sufficient additional warning signs, beacons, delineators, and barricades to warn and guide the public of all hazards through the construction zone at all times, and as directed.

Use flashing arrow boards on all tapers for each lane closure.

Some signs, barricades, and channelization devices may not be shown at the precise or measured position. Place the barricades, devices, or signs, with approval, in positions to meet field conditions.

Fill any holes left by barricade or sign supports and restore the area to its original condition.

Use Type A flashing warning lights or delineators to mark open excavation, footings, foundations, or other obstructions near lanes that may be open to traffic, as directed.

For additional information pertaining to channelization, signing, spacing details, and flagging procedures required to regulate, warn, and guide traffic through project, refer to the "Barricade and Construction Standards," BC(1)-21 and to the current *Texas Manual on Uniform Traffic Control Devices(TMUTCD)*.

Remove or cover signs that do not apply to current conditions at the end of each day's work.

Repair and/or replace all signs damaged by the public or due to weather events.

**Safety Contingency**

The contractor Force Account "Safety Contingency" that has been established for this project is intended to be utilized for work zone enhancement, to improve the effectiveness of the TCP that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent traffic management reviews on the project. The Engineer may choose to use existing bid items if it does not slow the implementation of enhancement.

**Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls**

Place Best Method Practices (BMP's) in locations as designated in the plans or as directed to meet field conditions.

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Place a weatherproof bulletin board containing the Texas Commission on Environmental Quality (TCEQ) required information on the project at a site as directed. Post the following documents:

TCEQ "TPDES Storm Water Program" Construction Site Notice; Primary Construction Site Notices from both Contractor and Department, completed and signed.

Place rain gauge(s) at locations, as designated.

The total disturbed area for this project is 1.33 acres. Establish the authorization requirements for Storm Water Discharges for soil disturbed area in this project, all project locations in the Contract, and Contractor Project Specific Locations (PSLs), within one mile of the project limits. Both the Department and the Contractor shall obtain an authorization to discharge storm water from TCEQ for the construction activities shown on the plans. Obtain required authorization from the TCEQ for any Contractor PSLs for construction support activities on or off right of way. When the total area disturbed for all projects in the Contract and PSLs within one mile of the project limits exceeds five acres, provide a copy of the Contractor NOI PSLs on the right of way to the Engineer (to the appropriate Municipal Separate Storm Sewer System (MS4) Operator when on an Off-system State route).

Best Method Practices (BMP's) may be adjusted to meet field conditions, or as directed. Engineer will verify all locations prior to placement of BMPs. Within the project limits, keep all inlets functional as long as possible to accept storm water as part of the Storm Water Pollution Prevention Plan (SWP3), as directed.

Grading operations will be limited to the catch point of the proposed cross-section.

Preserve any vegetation outside these limits.

### **Item 529 – Concrete Curb, Gutter and Combined Curb and Gutter**

Use Class A concrete for these Items, unless otherwise shown on the plans. Wire mesh and fibers for concrete will not be allowed. Reinforce all concrete using reinforcement conforming to Item 440, "Reinforcement for concrete," as shown on the plans or as directed.

Construct the curb opening with metal plate configuration detailed in the plans, or as directed, to ensure roadway drainage to the earthen ditch. No direct payment will be made for these features. Payment will be made under this Item. All required manipulations or incidentals required to complete the work will be considered subsidiary to these items.

Perform all requiring grading for proposed concrete curb, gutter, and combined curb and gutter construction as shown on the plans. All grading, including excavation and fill/embankment will be subsidiary to this Item.

After construction, restore the adjacent surface to a condition approved by the Engineer. Consider this work subsidiary to this Item.

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### **Item 540 – Metal Beam Guard Fence**

Provide composite blockouts for all Metal Beam Guard Fence (MBGF) posts.

Install guardrails in the direction of traffic flow.

Stake the locations for approval prior to beginning the installation of the proposed MBGF.

Remove all delineators and object markers associated with the MBGF. This work will be subsidiary to the various bid items.

Verify MBGF post lengths and heights prior to ordering materials.

Place reflectors, as per Delineator and Pavement Marker Standard sheet D&OM (1)-20 on the metal beam rail element or as directed.

At the end of each work day, protect all untreated, incomplete, MBGF/Rail blunt ends exposed to traffic flow during construction until the permanent end treatment is in place. All work and incidentals are considered subsidiary to this Item.

MBGF not used will become the property of the Contractor.

### **Item 544 –Guardrail End Treatments**

Provide certifications from the approved manufacturer's online training for all personnel installing end treatments prior to beginning work.

### **Item 545 –Crash Cushion Attenuators**

Furnish crash cushion attenuators at the locations shown on the plans for temporary work zone and permanent applications. Crash Cushion attenuators shall meet the plan requirements and be on the Department's *Compliant Work Zone Traffic Control Devices* List.

### **Item 585 – Ride Quality for Pavement Surfaces**

Use Surface Test Type A to govern ride quality.

Use diamond grinding or equivalent to correct areas of localized roughness. Use CSS-1H emulsion to fog seal the corrected areas.

The contractor shall take care to ensure satisfactory profile results in the intermediate paving layers (mixture) to eliminate corrective action for excessive deviations in the final surface layers.



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Milling will not be allowed as a corrective action for excessive deviations in the surface layer of hot mix.

### **Item 618 – Conduit**

The location of conduit is diagrammatic and may be varied to meet local conditions upon approval of the Engineer.

When shown on the plans, use underground warning tape in the trench installation of conduit (PVC).

For conduit placement in pavement, an earth-saw may be used provided the cut does not exceed 6 in. Backfill as shown on the trench details in the plans.

For all underground conduit bends of 45°, provide rigid metal conduit. Where the rigid metal conduit is exposed at any point and where rigid metal extends into ground boxes, bond the metal conduit to the grounding conductor with grounding type bushings or by other UL-listed grounding connectors, approved by the Engineer. Rigid metal bends will not be paid for directly but will be considered incidental to the PVC conduit system.

Use rigid metal conduit when crossing bridges or culverts. All clamps, expansion joints, bolts and accessories necessary to install the rigid metal will be subsidiary to this Item.

Backfill roadway and driveway trench with cement-stabilized backfill at the end of each working day. Place an ACP patch at the end of the week or as directed by the Engineer.

All conduit elbows and rigid metal extensions required to be installed on PVC conduit systems will not be paid for separately but will be considered subsidiary to the various bid items.

All bore items shall be directional and shall be paid for under this item. Bore quantities include the distance beneath the roadway plus an additional 2 ft. on either side of the curb, sidewalk, or edge of pavement.

For conduits install by open trench method, backfill the trench as shown on the plans.

Place conduit for fiber optic cable at a minimum of 48 in. below pavement surface. Place all other conduit at a minimum depth of 18 in. below the pavement surface. Place conduit prior to the new pavement construction.

Fit both ends of each raceway with a temporary cap to prevent dirt and debris from entering during construction.

Install a continuous green insulated copper wire No. 8 AWG or larger in every conduit throughout the electrical system in accordance with the electrical detail sheets, and the latest edition of the National Electrical Code.

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When conduit is to be installed where riprap presently exists, take care in breaking the existing riprap for placement of the conduit. Do not break out a greater area that is required for placement of the conduit. Replace broken riprap with Class "C" concrete to the exact slope, pattern, color and thickness of the existing riprap. Replacement of riprap will be subsidiary to this Item.

### **Item 620 – Electrical Conductors**

Use NEC type XHHW for all conductors.

Insulate grounding conductors with a green jacket and neutral conductors with a white jacket.

At every accessible point, bond together the grounding conductors which share the same conduit, junction box, ground box or structure in accordance with the electrical detail sheets and the latest edition of the National Electrical Code.

For both transformer and shoe-base type illumination poles, provide double-pole breakaway fuse holder as shown on the Department's Materials Producers List under "Roadway Illumination and Electrical Supplies." category. Fuse holder is shown on the list under Item 610, "Roadway Illumination Assemblies," and Item 620, "Electrical Conductors." Provide 10 amp time delay fuses.

Include extra cable length in each ground box or foundation for each run, to provide adequate slack, as provided in the plans or as directed.

Ensure a properly bonded electrical system by running one No. 8 wire between foundations and grounding it at each foundation ground-rod.

Bond metal junction boxes and metal conduit to the circuit grounding conductors in accordance with the National Electrical Code.

Refer to Article 7.18, "Electrical Requirements," for electrical certification and electrical licensing requirements

The required electrical certifications course is available and is scheduled periodically by Texas Engineering Extension Service (TEEX). Alternatively, Contractors may purchase an entire course for their personnel to be held at a time and location of their choice as negotiated through TEEX. For more information contact:

Texas Engineering Extension Service (TEEX)  
 TxDOT Electrical System Course  
 (979) 845-6563

### **Item 624 – Ground Boxes**

Remove all conductors in ground boxes as shown on the plans to be abandoned. Payment for removal of conductors will be subsidiary to this Item.

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#### **Item 644 – Small Roadside Sign Assemblies**

Stake all sign locations and receive approval prior to sign placement.

As directed, some regulatory and guide signs will be relocated before construction begins. Mark and locate each reference marker perpendicular to the road and along the right of way, or as directed, prior to removal. Re-erect reference markers at their original location upon completion of construction.

All signs removed will remain property of the Department.

#### **Item 658 – Delineator and Object Marker Assemblies**

Verify all locations with the Engineer prior to installation.

Removal and proper disposal of all existing delineators, object markers, and any non-standard hardware assemblies are not paid directly, but will be considered subsidiary to pertinent items for payment.

#### **Item 666 –Retroreflectorized Pavement Markings**

Use a pilot line for final striping and remove pilot line after all striping is complete. Removal will be in accordance with the methods specified in Item 677, "Eliminating Existing Pavement Markings and Markers," and will be subsidiary to this Item.

Air blasting is required as pavement surface preparation.

In those areas where existing pavement markings are to be covered or removed, field locate and record the existing pavement markings by survey or other approved method by the Engineer as directed. Place final striping on these locations.

#### **Item 672 – Raised Pavement Markers**

Use a pilot line for final striping and remove pilot line after all striping is complete. Removal will be in accordance with the methods specified in Item 677, "Eliminating Existing Pavement Markings and Markers," and will be subsidiary to this Item.

Air blasting is required for pavement surface preparation.

Furnish adhesives that conform to DMS-6100, "Epoxy and Adhesives," and DMS-6130, "Bituminous Adhesive for Pavement Markers," for this Item.

Do not place raised pavement markers when the pavement surface temperature is below 60°F.

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Removal of all existing raised pavement markers will be considered subsidiary to the various bid items.

#### **Item 3076 – Dense-Graded Hot-Mix Asphalt**

Provide aggregates with a Surface Aggregate Classification (SAC) of "A" for all surface mixes. Provide aggregates with a minimum SAC of B for all other layers unless otherwise shown on the plans.

In place of typical tack materials shown in Table 18 under Item 300, use a tracking resistant asphalt interlayer (TRAIL) material as a tack coat. Approved TRAIL products are found on TxDOT's Material Producer List under Asphalt Interlayer (Tracking Resistant) through <http://www.txdot.gov/business/resources/materials.html>.

Hydrated Lime shall be added as an additive as per Item 301 "Asphalt Antistripping Agents" between the rates of 1.0% minimum and 2.0% maximum by weight. If the Hamburg Wheel Test cannot be met within these limits, Liquid Antistripping agents as approved by the Engineer may be used in conjunction with lime.

Supply Warm-Mix Asphalt (WMA) under this Item.

When Reclaimed Asphalt Pavement (RAP) is used in the production of hot-mix asphaltic concrete, use fractionated RAP. Do not exceed 10.0% of Fractionated RAP on surface mixtures.

Use of RAS is not allowed for any mixtures.

Substitute PG Binders (grade dumping) will not be allowed for any mixtures.

Obtain the current version of the templates at <http://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/forms/site-manager.html>. Submit electronically to the Engineer.

Design the mixture at 50 gyrations (Ndesign).

Do not cover with asphaltic material, any existing survey monuments, manholes, or valve covers, etc. Adjustments will be done in coordination with the respective utility owners.

Place a string line or other suitable marking to ensure smooth, neat lines, or as directed. Provide smooth transitions to existing driveways and intersections.

Place longitudinal joints approximately 6 in. from the broken striping, or as directed, to avoid placing under the wheel path.

Operate the spreading and finishing machine at a uniform forward speed consistent with the plant production rate, hauling capability, and roller train capacity to result in a continuous operation. The speed will be slow enough, so that stopping between trucks is not ordinarily required. If the

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COUNTY: EL PASO  
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Engineer determines non-uniform delivery of material is affecting the HMA placement, the Engineer may require the paving operations to cease until acceptable methods are employed to minimize starting and stopping of the paver.

**Item 6185 – Truck Mounted Attenuator (TMA) and Trailer Attenuator (TA)**

All TMA Operators must participate in a TMA workshop to be conducted by the El Paso District Safety Office, on the proper use of TMAs, prior to working on Department Right of Way (ROW). A certificate of completion will be issued to TMA Operators that successfully complete the TMA workshop. The certificate of completion must be carried by TMA Operators at all times while working on Department right of way.

Acquire the TCP and TMA Operator's certificates of completion prior to the authorization to begin work. No time suspension will be granted and no traffic control work will be allowed without certificates of completion.

In addition to the shadow vehicles with Truck Mounted Attenuator (TMA) that are specified as being required on the traffic control plan for this project, provide 1 additional shadow vehicle with TMA for TCP (6-1)-12 and 4 – additional shadow vehicles with TMA for TCP (6-6)-12 as detailed on these standard sheets.

Therefore, 5 total shadow vehicles with TMA will be required for this type of work. The contractor will be responsible for determining if one or more of these operations will be ongoing at the same time to determine the total number of TMAs needed for the project.

The supporting vehicle for the TMA shall have a minimum gross (i.e., ballasted) vehicular weight of 19,000 pounds.

**Item 6001 – Portable Changeable Message Sign**

Provide messages as directed.

Portable Changeable Message Sign to be available as deemed necessary.



CONTROLLING PROJECT ID 2121-05-046

DISTRICT El Paso  
HIGHWAY IH 10

COUNTY El Paso

# Estimate & Quantity Sheet

CONTROL SECTION JOB				2121-05-046		TOTAL EST.	TOTAL FINAL
PROJECT ID				A00061921			
COUNTY				El Paso			
HIGHWAY				IH 10			
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL		
	100-6002	PREPARING ROW	STA	6.000		6.000	
	104-6021	REMOVING CONC (CURB)	LF	620.000		620.000	
	104-6023	REMOVING CONC (CTB)	LF	380.000		380.000	
	105-6013	REMOVING STAB BASE & ASPH PAV (9")	SY	990.000		990.000	
	110-6001	EXCAVATION (ROADWAY)	CY	32.000		32.000	
	132-6005	EMBANKMENT (FINAL)(ORD COMP)(TY C)	CY	5,289.000		5,289.000	
	247-6203	FL BS (CMP IN PLC)(RAP) (6")	SY	3,631.000		3,631.000	
	247-6366	FL BS (CMP IN PLC)(TY A GR 5)(FNAL POS)	CY	233.000		233.000	
	310-6005	PRIME COAT (AE-P)	GAL	171.000		171.000	
	400-6005	CEM STABIL BKFL	CY	157.000		157.000	
	400-6006	CUT & RESTORING PAV	SY	8.000		8.000	
	416-6004	DRILL SHAFT (36 IN)	LF	838.000		838.000	
	420-6014	CL C CONC (ABUT)(HPC)	CY	47.200		47.200	
	420-6030	CL C CONC (CAP)(HPC)	CY	59.700		59.700	
	420-6038	CL C CONC (COLUMN)(HPC)	CY	54.300		54.300	
	420-6066	CL C CONC (RAIL FOUNDATION)	CY	76.000		76.000	
	422-6002	REINF CONC SLAB (HPC)	SF	11,040.000		11,040.000	
	422-6016	APPROACH SLAB (HPC)	CY	71.000		71.000	
	425-6035	PRESTR CONC GIRDER (TX28)	LF	1,428.420		1,428.420	
	432-6008	RIPRAP (CONC)(CL B)(RR8&RR9)	CY	261.000		261.000	
	450-6015	RAIL (TY T551)(HPC)	LF	512.000		512.000	
	450-6027	RAIL (TY T80SS)	LF	468.000		468.000	
	454-6018	SEALED EXPANSION JOINT (4 IN) (SEJ - M)	LF	137.000		137.000	
	496-6010	REMOV STR (BRIDGE 100 - 499 FT LENGTH)	EA	1.000		1.000	
	496-6025	REMOV STR (APPROACH SLAB)	EA	2.000		2.000	
	500-6001	MOBILIZATION	LS	1.000		1.000	
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	7.000		7.000	
	506-6002	ROCK FILTER DAMS (INSTALL) (TY 2)	LF	160.000		160.000	
	506-6011	ROCK FILTER DAMS (REMOVE)	LF	160.000		160.000	
	506-6020	CONSTRUCTION EXITS (INSTALL) (TY 1)	SY	623.000		623.000	
	506-6024	CONSTRUCTION EXITS (REMOVE)	SY	623.000		623.000	
	506-6040	BIODEG EROSN CONT LOGS (INSTL) (8")	LF	75.000		75.000	
	506-6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	75.000		75.000	
	512-6005	PORT CTB (FUR & INST)(F-SHAPE)(TY 1)	LF	1,290.000		1,290.000	
	512-6053	PORT CTB (REMOVE)(F-SHAPE)(TY 1)	LF	1,290.000		1,290.000	
	529-6002	CONC CURB (TY II)	LF	572.000		572.000	
	540-6001	MTL W-BEAM GD FEN (TIM POST)	LF	575.000		575.000	

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DISTRICT	COUNTY	CCSJ	SHEET
El Paso	El Paso	2121-05-046	5



# Estimate & Quantity Sheet

CONTROLLING PROJECT ID 2121-05-046

DISTRICT El Paso  
HIGHWAY IH 10

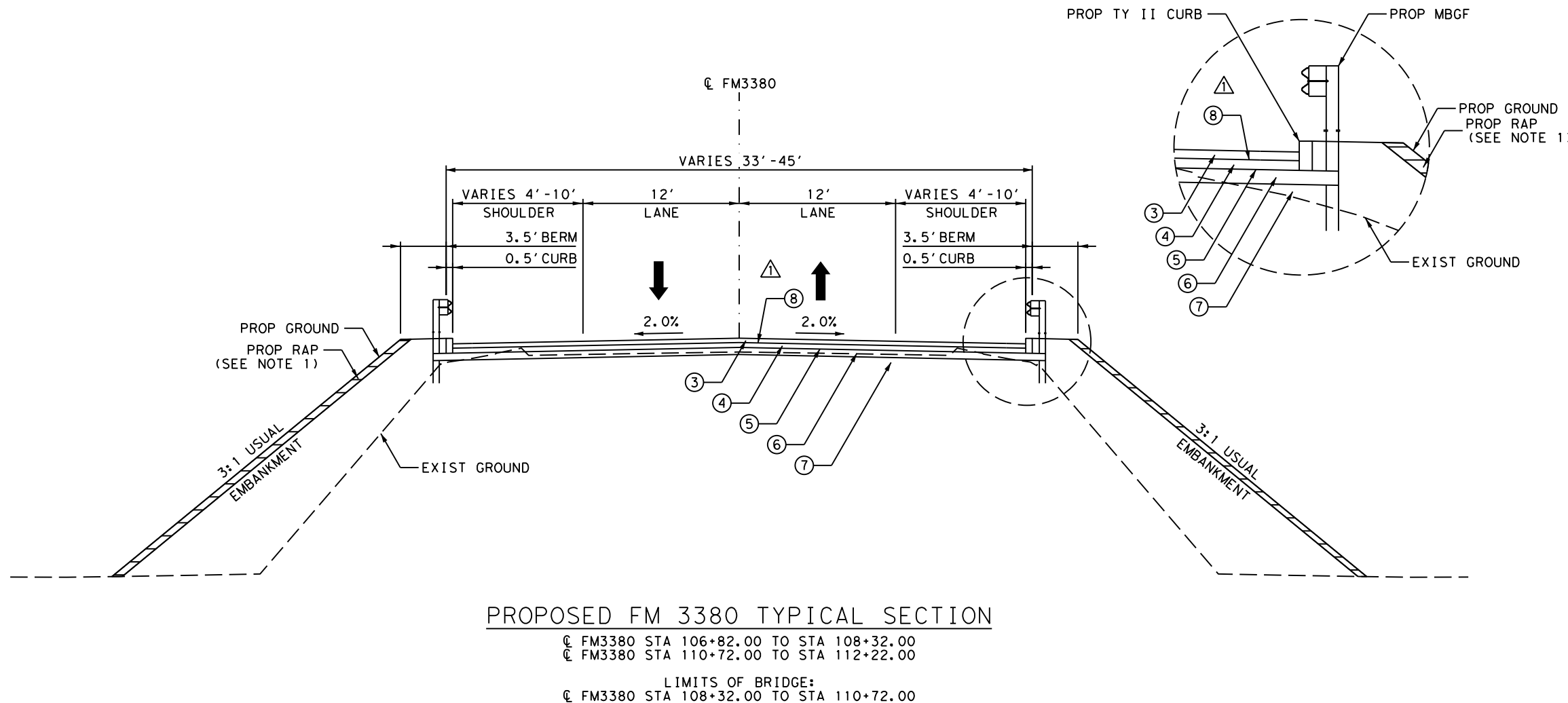
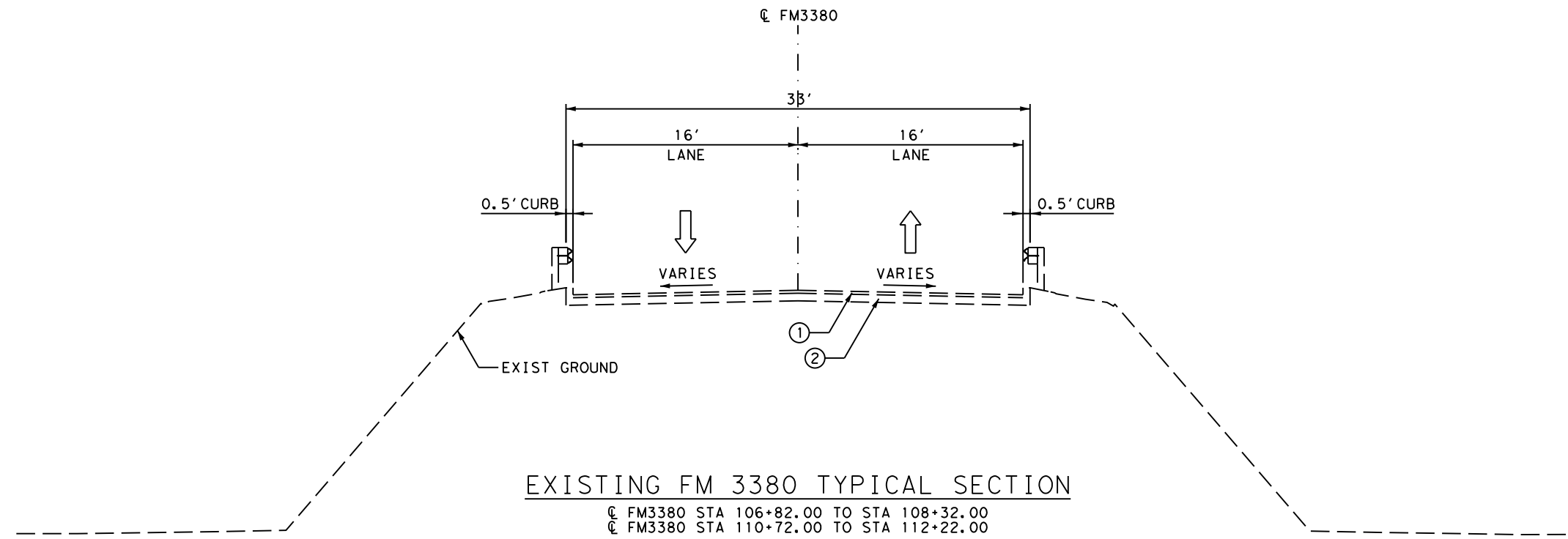
COUNTY El Paso

CONTROL SECTION JOB				2121-05-046		TOTAL EST.	TOTAL FINAL
PROJECT ID				A00061921			
COUNTY				El Paso			
HIGHWAY				IH 10			
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL		
	540-6002	MTL W-BEAM GD FEN (STEEL POST)	LF	1,250.000		1,250.000	
	540-6006	MTL BEAM GD FEN TRANS (THRIE-BEAM)	EA	4.000		4.000	
	540-6016	DOWNSTREAM ANCHOR TERMINAL SECTION	EA	2.000		2.000	
	542-6001	REMOVE METAL BEAM GUARD FENCE	LF	2,110.000		2,110.000	
	542-6003	REMOVE DOWNSTREAM ANCHOR TERMINAL	EA	2.000		2.000	
	544-6001	GUARDRAIL END TREATMENT (INSTALL)	EA	6.000		6.000	
	544-6003	GUARDRAIL END TREATMENT (REMOVE)	EA	2.000		2.000	
	545-6005	CRASH CUSH ATTEN (REMOVE)	EA	6.000		6.000	
	545-6007	CRASH CUSH ATTEN (INSTL)(L)(N)(TL3)	EA	2.000		2.000	
	545-6019	CRASH CUSH ATTEN (INSTL)(S)(N)(TL3)	EA	4.000		4.000	
	618-6023	CONDT (PVC) (SCH 40) (2")	LF	190.000		190.000	
	618-6047	CONDT (PVC) (SCH 80) (2") (BORE)	LF	190.000		190.000	
	620-6007	ELEC CONDR (NO.8) BARE	LF	848.000		848.000	
	620-6008	ELEC CONDR (NO.8) INSULATED	LF	1,696.000		1,696.000	
	624-6002	GROUND BOX TY A (122311)W/APRON	EA	5.000		5.000	
	644-6064	IN BRIDGE MNT CLEARANCE SGN ASSM(TY N)	EA	2.000		2.000	
	658-6027	INSTL DEL ASSM (D-SY)SZ (BRF)CTB (BI)	EA	6.000		6.000	
	658-6062	INSTL DEL ASSM (D-SW)SZ 1(BRF)GF2(BI)	EA	16.000		16.000	
	666-6170	REFL PAV MRK TY II (W) 4" (SLD)	LF	560.000		560.000	
	666-6207	REFL PAV MRK TY II (Y) 4" (SLD)	LF	560.000		560.000	
	666-6224	PAVEMENT SEALER 4"	LF	1,120.000		1,120.000	
	666-6303	RE PM W/RET REQ TY I (W)4"(SLD)(100MIL)	LF	520.000		520.000	
	666-6315	RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL)	LF	520.000		520.000	
	672-6009	REFL PAV MRKR TY II-A-A	EA	14.000		14.000	
	678-6001	PAV SURF PREP FOR MRK (4")	LF	1,120.000		1,120.000	
	3076-6006	D-GR HMA TY-B PG70-22	TON	188.000		188.000	
	3076-6024	D-GR HMA TY-C SAC-A PG70-22	TON	157.000		157.000	
	3076-6066	TACK COAT	GAL	171.000		171.000	
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN	EA	6.000		6.000	
	6185-6002	TMA (STATIONARY)	DAY	40.000		40.000	
18		LAW ENFORCEMENT: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS	1.000		1.000	
		SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS	1.000		1.000	
		EROSION CONTROL MAINTENANCE: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS	1.000		1.000	

 REVISED 5/24/2022

DISTRICT	COUNTY	CCSJ	SHEET
El Paso	El Paso	2121-05-046	5A

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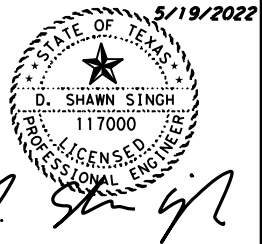


**LEGEND**

- ↑ EXISTING TRAFFIC FLOW DIRECTION
- ↑ PROPOSED TRAFFIC FLOW DIRECTION
- ① EXISTING 2.5" HMA
- ② EXISTING 6.5" FLEX BASE
- ③ 2.5" D-GR HMA TY-C SAC-A PG 70-22
- ④ 3" D-GR HMA TY-B PG 70-22
- △ ⑤ PRIME COAT
- ⑥ 7" FB TY A GR 5
- ⑦ COMPACTED SUBGRADE
- △ ⑧ TACK COAT

**NOTES:**

1. SEE SWP3 LAYOUT FOR MORE INFORMATION.



**Kimley»Horn** F-928

**IH 10 UNDERPASS AT FM 3380**

**TYPICAL SECTIONS**

SCALE: NTS		SHEET 1 OF 1	
©2022		Texas Department of Transportation	
CONT	SECT	JOB	HIGHWAY
2121	05	046	IH 10
DIST	COUNTY	SHEET NO.	
ELP	EL PASO	6	

△ REVISED 5/19/22

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SUMMARY OF ROADWAY ITEMS																	
LOCATION	100 6002	110 6001	132 6005	247 6366	310 6005	420 6066	450 6027	529 6002	540 6001	540 6002	540 6006	540 6016	544 6001	545 6007	3076 6006	3076 6024	3076 6066
	PREPARING ROW	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL) (O RD COMP) (TY C)	FL BS (CMP IN PLC) (TY A GR 5) (FNAL POS)	PRIME COAT (AE-P)	CL C CONC (RAIL FOUNDATION)	RAIL (TY T80SS)	CONC CURB (TY II)	MTL W-BEAM GD FEN (TIM POST)	MTL W-BEAM GD FEN (STEEL POST)	MTL BEAM GD FEN TRANS (THRIE-BE AM)	DOWNSTREAM ANCHOR TERMINAL SECTION	GUARDRAIL END TREATMENT (INSTALL)	CRASH CUSH ATTEN (INSL) (L) (N) (TL3)	D-GR HMA TY-B PG70-22	D-GR HMA TY-C SAC-A PG70-22	TACK COAT
	STA	CY	CY	CY	GAL	CY	LF	LF	LF	LF	EA	EA	EA	EA	TON	TON	GAL
FM 3380	6	32	5289	233	171			572		1250	4		4		188	157	171
IH 10						76	468		575			2	2	2			
<b>PROJECT TOTALS</b>	<b>6</b>	<b>32</b>	<b>5289</b>	<b>233</b>	<b>171</b>	<b>76</b>	<b>468</b>	<b>572</b>	<b>575</b>	<b>1250</b>	<b>4</b>	<b>2</b>	<b>6</b>	<b>2</b>	<b>188</b>	<b>157</b>	<b>171</b>

SUMMARY OF REMOVAL ITEMS										
LOCATION	104 6021	104 6023	105 6013	400 6006	496 6010	496 6025	542 6001	542 6003	544 6003	545 6005
	REMOVING CONC (CURB)	REMOVING CONC (CTB)	REMOVING STAB BASE & ASPH PAV (9")	CUT & RESTORING PAV	REMOV STR (BRIDGE 100 - 499 FT LENGTH)	REMOV STR (APPROACH SLAB)	REMOVE METAL BEAM GUARD FENCE	REMOVE DOWNSTREAM ANCHOR TERMINAL	GUARDRAIL END TREATMENT (REMOVE)	CRASH CUSH ATTEN (REMOVE)
	LF	LF	SY	SY	EA	EA	LF	EA	EA	EA
FM 3380 & IH 10	620	380	990	8	1	2	2110	2	2	2
<b>PROJECT TOTALS</b>	<b>620</b>	<b>380</b>	<b>990</b>	<b>8</b>	<b>1</b>	<b>2</b>	<b>2110</b>	<b>2</b>	<b>2</b>	<b>2</b>

SUMMARY OF WORKZONE TRAFFIC CONTROL ITEMS						
LOCATION	512 6005	512 6053	545 6005	545 6019	6001 6002	6185 6002
	PORT CTB (FUR & INST) (F-SHAPE) (TY 1)	PORT CTB (REMOVE) (F-SHAPE) (TY 1)	CRASH CUSH ATTEN (REMOVE)	CRASH CUSH ATTEN (INSL) (S) (N) (TL3)	PORTABLE CHANGEABLE MESSAGE SIGN	TMA (STATIONARY)
	LF	LF	EA	EA	EA	DAY
FM 3380					2	
IH 10	1290	1290	4	4	4	40
<b>PROJECT TOTALS</b>	<b>1290</b>	<b>1290</b>	<b>4</b>	<b>4</b>	<b>6</b>	<b>40</b>

SUMMARY OF MOBILIZATION ITEMS		
LOCATION	500 6001	502 6001
	MOBILIZATION	BARRICADES, SIGNS AND TRAFFIC HANDLING
	LS	MO
FM 3380 & IH 10	1	7
<b>PROJECT TOTALS</b>	<b>1</b>	<b>7</b>

**Kimley»Horn** F-928

**IH 10 UNDERPASS  
AT FM 3380**

**QUANTITY SUMMARY**

SHEET 1 OF 2

CONT	SECT	JOB	HIGHWAY
2121	05	046	IH 10
DIST	COUNTY		SHEET NO.
ELP	EL PASO		7

REVISD 5/19/22

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 DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

**V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS. (CONTINUED)**

- d. For roosts where occupancy is strongly suspected but unconfirmed during the initial survey, revisit feature(s) at most four weeks prior to scheduled disturbance to confirm absence of bats.
- e. If bats are present or recent signs of occupation (i.e., piles of guano, distinct musky odor, or staining and rub marks at potential entry points) are observed, take appropriate measures to ensure that bats are not harmed, such as implementing non-lethal exclusion activities or timing or phasing of construction.
- f. Exclusion devices can be installed by a qualified individual between September 1 and March 31. Exclusion devices should be used for a minimum of seven days when minimum nighttime temperatures are above 50°F AND minimum daytime temperatures are above 70°F. Prior to exclusion, ensure that alternate roosting habitat is available in the immediate area. If no suitable roosting habitat is available, installation of alternate roosts is recommended to replace the loss of an occupied roost. If alternate roost sites are not provided, bats may seek shelter in other inappropriate sites, such as buildings, in the surrounding area.
- g. If feature(s) used by bats are removed as a result of construction, replacement structures should incorporate bat-friendly design or artificial roosts should be constructed to replace these features.
- h. In all instances, avoid harm or death to bats. Bats should only be handled as a last resort and after communication with TPWD.
- i. Coordinate with TPWD about the latest bat handling restrictions and protocols involving COVID-19 and bat handling. In general, all staff must follow the guidelines listed below:
  - i) Do not handle bats if not part of a critical or time-sensitive research project. Contact TPWD to discuss your project needs before beginning work.
  - ii) All participants must follow CDC social-distancing guidelines.
  - iii) Wear a face mask to minimize the exchange of respiratory droplets such as a surgical mask, dust mask, or cloth mask when within 6 feet of a living bat.
  - iv) Use disposable exam gloves or other reusable gloves (e.g., rubber dish-washing gloves) that can be decontaminated to prevent spread of pathogens. Do not touch your face or other potentially contaminated surfaces with your gloves prior to handling bats.
  - v) Limit handling to as few handlers as possible.
  - vi) Do not blow on bats for any reason.
  - vii) Use separate temporary holding containers for each bat such as disposable paper bags.
  - viii) Implement additional disinfection, quarantine, and cleaning procedures.
- j. Bat surveys of structures should include visual inspections of structural fissures (cracked or spalled concrete, damaged or split beams, split or damaged timber railings), crevices (expansion joints, space between parallel beams, spaces above support piers), and alternative structures (drainage pipes, bolt cavities, open sections between support beams, swallow nests) for the presence of bats.
- k. Before excluding bats from any occupied structure, bat species, weather, temperature, season, and geographic location must be incorporated into any exclusion plans to avoid unnecessary harm or death to bats. Winter exclusion must entail a survey to confirm either, 1) bats are absent or 2) present but active (i.e., continuously active not intermittently active due to arousals from hibernation).
  - i) Avoid using materials that degrade quickly, like paper, steel wool or rags, to close holes.
  - ii) Avoid using products or making structural modifications that may block natural ventilation, like hanging plastic sheeting over an active roost entrance, thereby altering roost microclimate.
  - iii) Avoid using chemical and ultrasonic repellents.

**V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS. (CONTINUED)**

- iv) Avoid use of silicone, polyurethane or similar non-water-based caulk products.
- v) Avoid use of expandable foam products at occupied sites.
- vi) Avoid the use of flexible netting attached with duct tape.
- l. In order to avoid entombing bats, exclusion activities should be only implemented by a qualified individual. A qualified individual or company should possess at least the following minimum qualifications:
  - i) Experience in bat exclusion (the individual, not just the company).
  - ii) Proof of rabies pre-exposure vaccinations.
  - iii) Demonstrated knowledge of the relevant bat species, including maternity season date range and habitat requirements.
  - iv) Demonstrated knowledge of rabies and histoplasmosis in relation to bat roosts.
- m. Contact TPWD for additional resources and information to assist in executing successful bat exclusions that will avoid unnecessary harm or death in bats.
- 4. Terrestrial Amphibian and Reptile BMP's  
 The following Terrestrial Amphibian and Reptile BMP apply to projects within the range and in suitable habitat for herpetofauna SGCN listed below and that are also listed on TPWD5#32s RTEST online application. Please note that some species may require both aquatic and terrestrial BMP. It is difficult to confirm absence for most species of amphibians and reptiles; therefore, assume presence in suitable habitat and implement the following BMP.
  - a. For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Visually inspect excavation areas for trapped wildlife prior to backfilling.
  - b. Avoid or minimize disturbing or removing cover objects, such as downed trees, rotting stumps, brush piles, and leaf litter.
  - c. Examine heavy equipment stored on site before use, particularly after rain events when reptile and amphibian movements occur more often, to ensure use will not harm individuals that might be seeking temporary refuge.
  - d. Due to increased activity (mating) of reptiles and amphibian during the spring, construction activities like clearing or grading should attempt to be scheduled outside of the spring (March-May) season. Also, timing ground disturbing activities before October when reptiles and amphibians become less active and may be using burrows in the project area is also encouraged.
  - e. After project is complete, revegetate disturbed areas with an appropriate locally sourced native seed mix. If erosion control blankets or mats will be used, the product should not contain netting, but should only contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.
  - f. For the Texas Horned Lizard, also avoid harvester ant mounds in the selection of Project Specific Locations (PSLs) where feasible.

If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately. The work may not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediate area, and contact the Engineer immediately.

**VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES**

General (applies to all projects):  
 Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used. Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labelling as required by the Act. Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Engineer if any of the following are detected:

- \* Dead or distressed vegetation (not identified as normal)
- \* Trash piles, drums, canister, barrels, etc.
- \* Undesirable smells or odors
- \* Evidence of leaching or seepage of substances

Does the project involve any bridge class structure rehabilitation or replacements (bridge class structures not including box culverts)?

Yes  No

If "No", then no further action is required.

If "Yes", then TxDOT is responsible for completing asbestos assessment/inspection.

Are the results of the asbestos inspection positive (is asbestos present)?

Yes  No

If "Yes", then TxDOT must retain a DSHS licensed asbestos consultant to assist with the notification, develop abatement/mitigation procedures, and perform management activities as necessary. The notification form to DSHS must be postmarked at least 15 working days prior to scheduled demolition.

No Action Required  Required Action

1. The asbestos testing, completed on December 21, 2017, indicated concentrations of asbestos at the following location(s). The Asbestos and Lead Inspection Reports are available for reference at the El Paso District Office, Bridge Section, Zilithai Soto, P.E. 915-790-4284.

CSJ: 2121-05-046;  
 NBI 24-072-0-2121-05-158  
 Concrete texture materials on wing walls and abutments of the bridge.

- 2. All remediation will be done by TxDOT prior to construction.
- 3. Contractor is responsible for providing the demolition date(s), in coordination with the Engineer, in order to minimize construction delays and subsequent claims.

Any other evidence indicating possible hazardous materials or contamination discovered on site. Hazardous Materials or Contamination Issues Specific to this Project:

No Action Required  Required Action


**VII. OTHER ENVIRONMENTAL ISSUES**

(Includes regional issues such as Edwards Aquifer District, etc.)

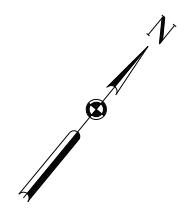
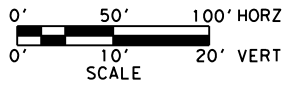
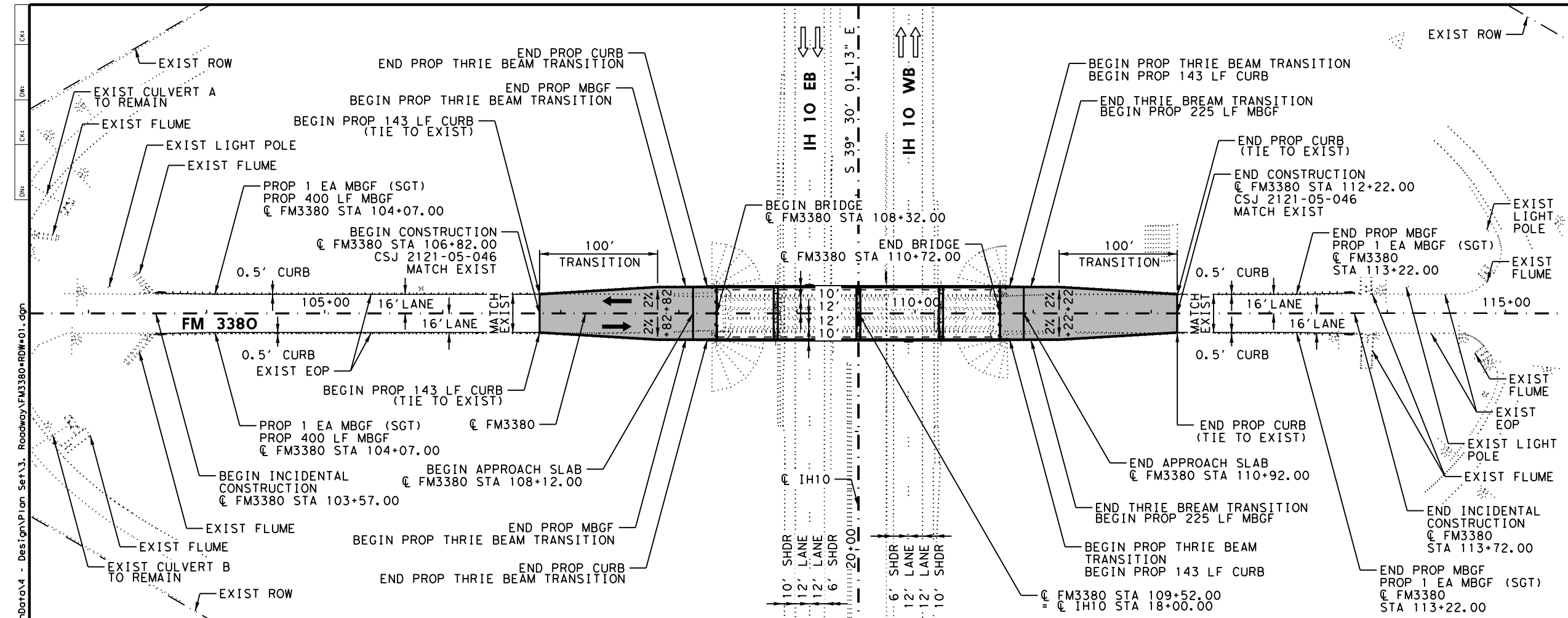
No Action Required  Required Action

- 1. Minimize particulate matter emissions by using on-going dust control measures, as indicated in Standard Specifications. The Texas Emission Reduction Plan (TERP) provides financial incentives to reduce emissions from vehicles and equipment. TxDOT encourages construction Contractors to use this and other local and/or federal incentive programs to the fullest possible extent, in an effort to minimize fossil fuel emissions.

REVISED 5/19/22

 Texas Department of Transportation		Design Division Standard	
<b>ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS EPIC</b>			
SHEET 2 OF 2			
FILE: epic.dgn	DN: TxDOT	CK: RG	DW: VP
©TxDOT: February 2015	CONT	SECT	JOB
12-12-2011 (DS) REVISIONS	212105	046	IH 10
05-07-14 ADDED NOTE SECTION IV.	DIST	COUNTY	SHEET NO.
01-23-2015 SECTION I (CHANGED ITEM 1122 TO ITEM 506, ADDED GRASSY SWALES.	ELP	EL PASO	10A





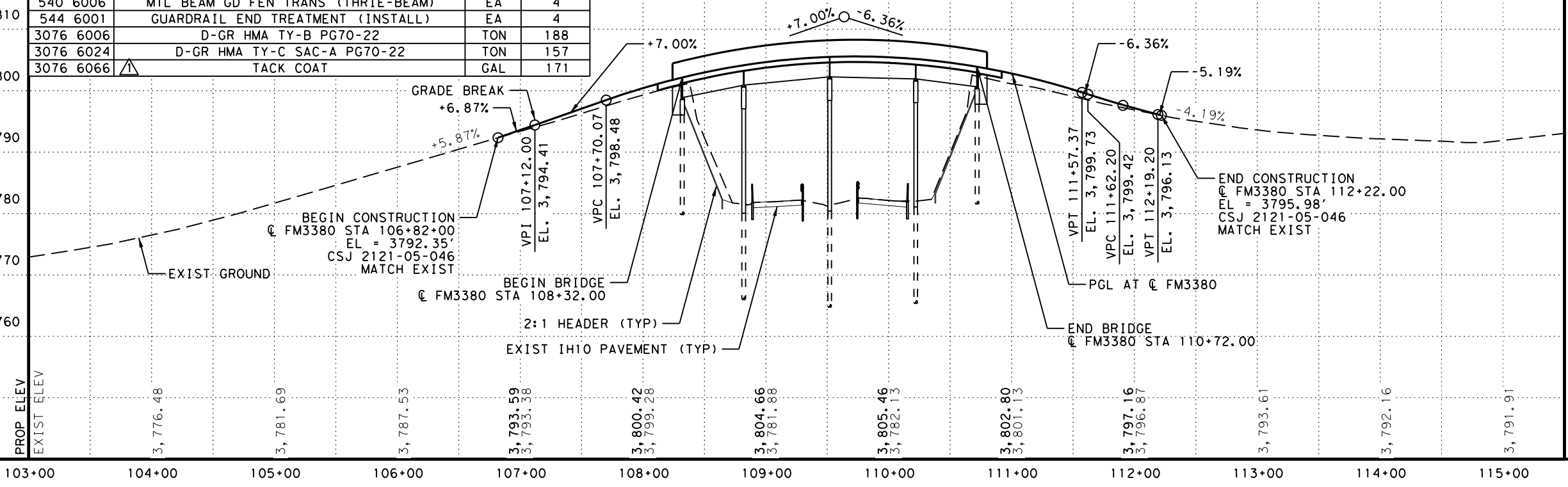
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**ESTIMATED QUANTITIES**

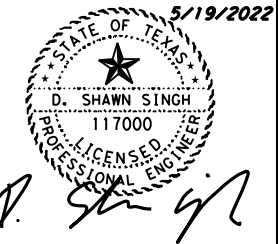
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3,830 100 6002	PREPARING ROW	STA	6
110 6001	EXCAVATION (ROADWAY)	CY	32
132 6005	EMBANKMENT (FINAL) (ORD COMP) (TY C)	CY	5289
247 6366	FL BS (CMP IN PLC) (TY A GR 5) (FNAL POS)	CY	233
3,820 310 6005	PRIME COAT (AE-P)	GAL	171
529 6002	CONC CURB (TY II)	LF	572
540 6002	MTL W-BEAM GD FEN (STEEL POST)	LF	1250
540 6006	MTL BEAM GD FEN TRANS (THRIE-BEAM)	EA	4
3,810 544 6001	GUARDRAIL END TREATMENT (INSTALL)	EA	4
3076 6006	D-GR HMA TY-B PG70-22	TON	188
3076 6024	D-GR HMA TY-C SAC-A PG70-22	TON	157
3,800 3076 6066	TACK COAT	GAL	171

**VERTICAL CURVE DATA:**  
 STA = 109+63.72  
 EL = 3,812.03  
 ex = -6.47'  
 K = 29  
 L = 387.30'

**VERTICAL CURVE DATA:**  
 STA = 111+90.70  
 EL = 3,797.61  
 ex = 0.08'  
 K = 49  
 L = 57.00'



REVISD 5/19/22



**Kimley»Horn** F-928

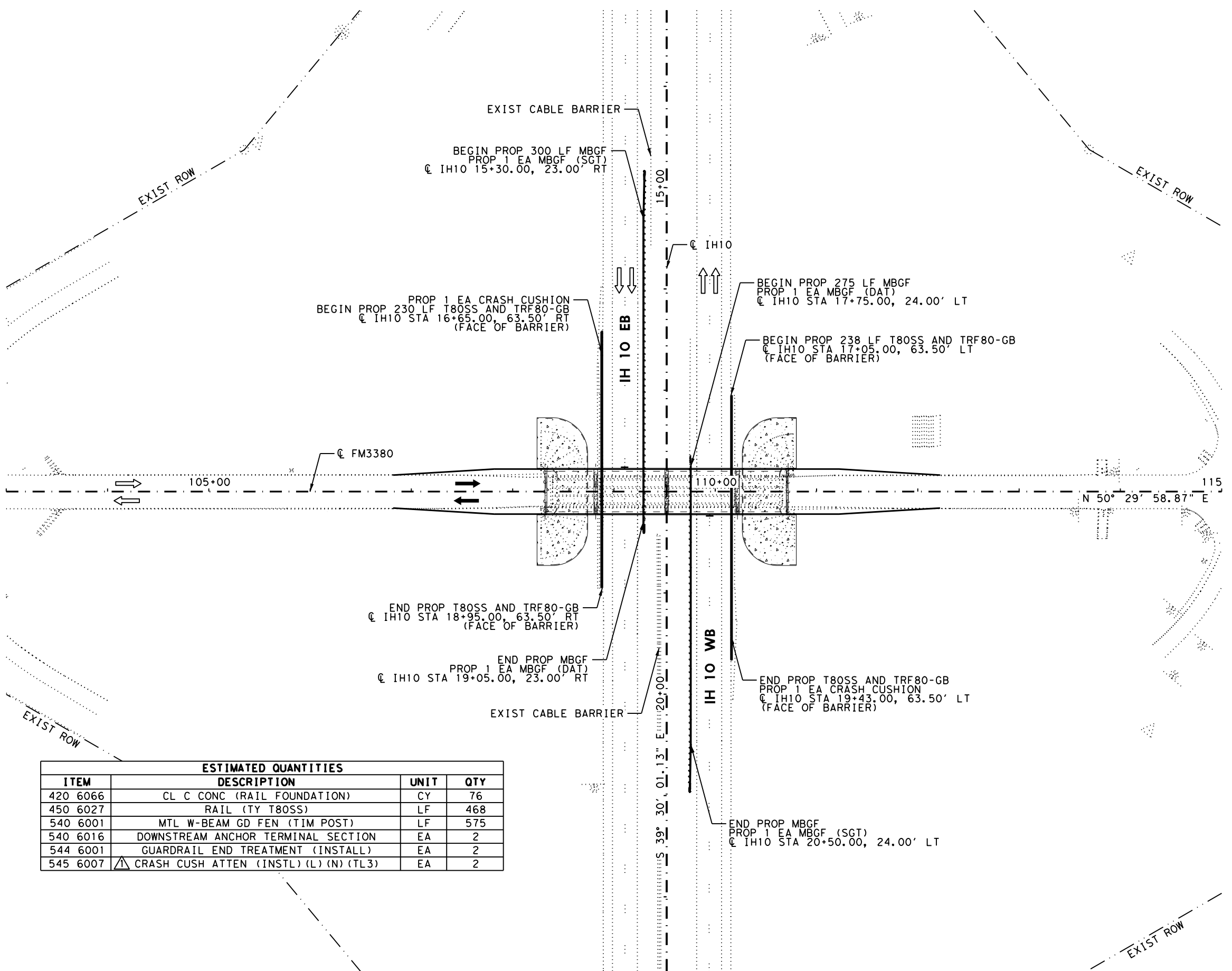
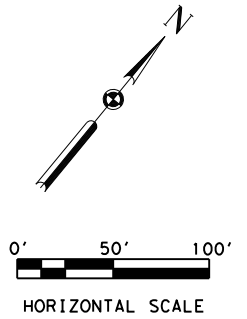
**IH 10 UNDERPASS AT FM 3380**

**PLAN & PROFILE**

SHEET 1 OF 1 ©2022

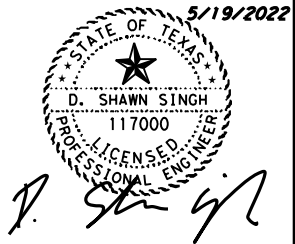
Texas Department of Transportation			
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2121	05	046	IH 10
DIST	COUNTY	SHEET NO.	
ELP	EL PASO	40	

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ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	UNIT	QTY
420 6066	CL C CONC (RAIL FOUNDATION)	CY	76
450 6027	RAIL (TY T80SS)	LF	468
540 6001	MTL W-BEAM GD FEN (TIM POST)	LF	575
540 6016	DOWNSTREAM ANCHOR TERMINAL SECTION	EA	2
544 6001	GUARDRAIL END TREATMENT (INSTALL)	EA	2
545 6007	CRASH CUSH ATTEN (INSTL) (L) (N) (TL3)	EA	2

REVISD 5/19/22



**Kimley»Horn**

**IH 10 UNDERPASS  
AT FM 3380**

**BARRIER DETAILS**

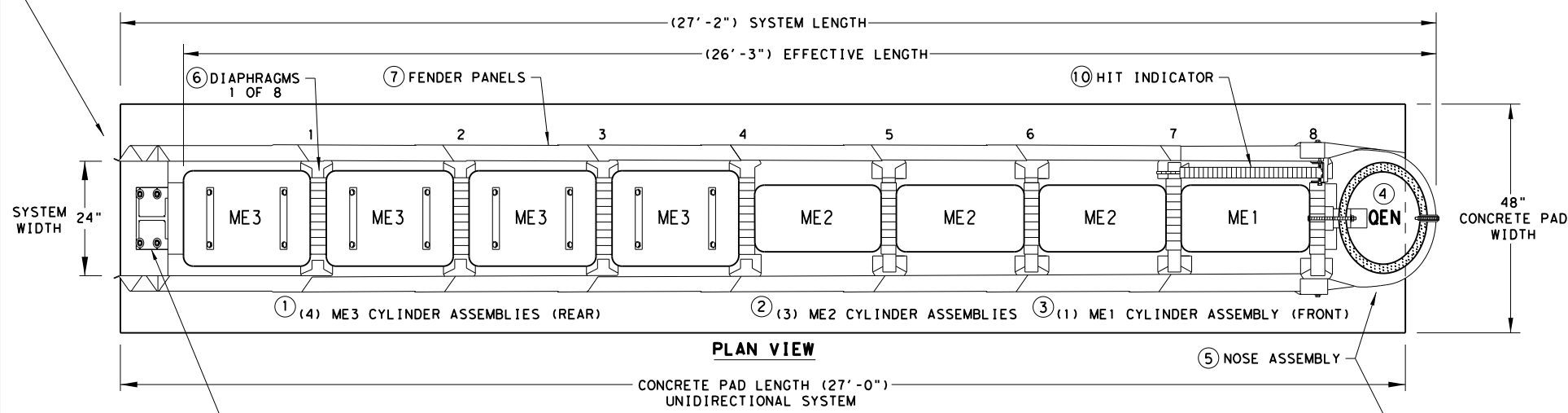
SHEET 1 OF 1			
©2022			
Texas Department of Transportation			
CONT	SECT	JOB	HIGHWAY
2121	05	046	IH 10
DIST	COUNTY		SHEET NO.
ELP	EL PASO		41

DISCLAIMER: THIS STANDARD IS GOVERNED BY THE "TEXAS ENGINEERING PRACTICE ACT". NO WARRANTY OF ANY KIND IS MADE BY TXDOT FOR ANY PURPOSE WHATSOEVER. TXDOT ASSUMES NO RESPONSIBILITY FOR THE CONVERSION OF THIS STANDARD TO OTHER FORMATS OR FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

DATE: 5/19/2022  
FILE: c:\pwwork\1\00171855\qge11tem10n20.dgn

NOTE:  
A TRANSITION MAY BE REQUIRED TO INSTALL THE QUADGUARD ELITE M10 TO THE OBJECT BEING SHIELDED.

**QUADGUARD ELITE M10 24" WIDE (8 BAY) SYSTEM**



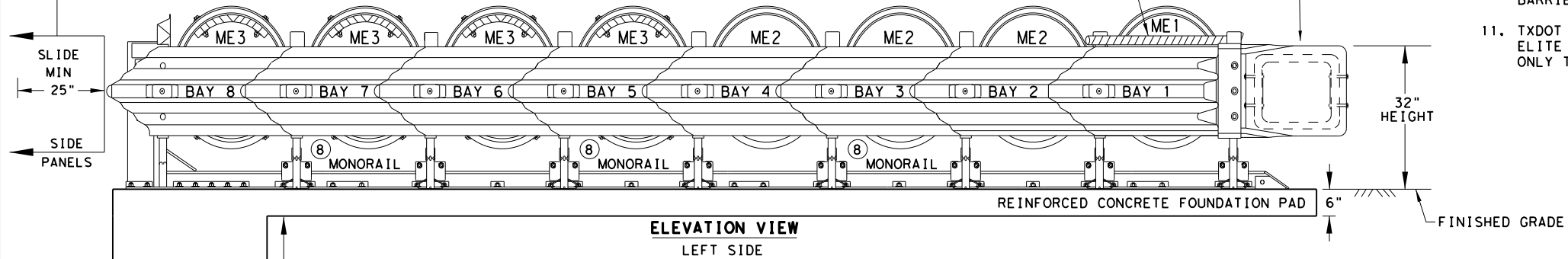
KEY	KEY	KEY
① ME3 CYLINDER ASSEMBLIES	⑥ DIAPHRAGMS	⑩ HIT INDICATOR
② ME2 CYLINDER ASSEMBLIES	⑦ FENDER PANELS	
③ ME1 CYLINDER ASSEMBLY	⑧ MONORAILS	
④ QEN CYLINDER	⑨ TYPE OF BACKUP	
⑤ NOSE BELT ASSEMBLY		

⑨ SHOWN WITH TENSION STRUT BACKUP ASSEMBLY

NOTE: PROVISION SHALL BE MADE FOR REAR FENDER SIDE PANELS TO SLIDE REARWARD UPON IMPACT, 25" MIN.

NOTE: HIT INDICATOR WILL RAISE UPON IMPACT.

④ QEN CYLINDER INSTALLED INSIDE OF NOSE BELT ASSEMBLY ⑤



NOTES:  
CONTACT THE MANUFACTURER WITH SITE SPECIFIC DATA (SSD) FOR CONCRETE PAD AND ANCHOR BLOCK INSTALLATION REQUIREMENTS.

A MANUFACTURER'S DRAWING PACKAGE UNIQUE AND SPECIFIC FOR THE QUADGUARD ELITE M10 FIELD INSTALLATION AND INFORMATION REGARDING THE TYPE OF BACKUP ASSEMBLY REQUIRED FOR THE TRANSITION WILL BE PROVIDED BY THE MANUFACTURER TO THE ENGINEER AND INSTALLER.

6" REINFORCED CONCRETE PAD REQUIRES THE INSTALLATION OF AN ANCHOR BLOCK AS SHOWN ON THE MANUFACTURER'S DRAWING PACKAGE.

8" NON-REINFORCED CONCRETE PAD MAY NOT REQUIRE AN ANCHOR BLOCK, IF THE PAD IS INSTALLED AGAINST AN IMMOVABLE CONCRETE BACKUP.

CONCRETE PAD AND ANCHOR BLOCK COMBINATIONS SHALL BE CONFIRMED WITH THE MANUFACTURER BASED UPON SITE SPECIFIC DATA (SSD).

NOTE:  
THE QUADGUARD ELITE M10 8-BAY, 24" WIDE - NARROW SYSTEM TESTED TO MASH TEST LEVEL 3.

TL-3 MODEL #	QM10024E	CYLINDER TYPES IN BAYS			
BAYS	8	TYPE-ME3	TYPE-ME2	TYPE-ME1	TYPE-QEN
DIAPHRAGMS	8	4	3	1	1
WIDTH	24"	REAR	FRONT		NOSE

**BACKUP ASSEMBLY TYPES FOR SYSTEM TRANSITIONS**

SEE GENERAL NOTE 10 FOR CLEARANCE LIMITATIONS

⑨ TENSION STRUT BACKUP

⑨ CONCRETE BACKUP

SYSTEM TRANSITIONS TYPES	
1	QUAD-BEAM TO CONCRETE SAFETY BARRIER
2	QUAD-BEAM TO CONCRETE BRIDGE RAIL
3	QUAD-BEAM TO CONCRETE END SHOE
4	QUAD-BEAM TO THRIE-BEAM RAIL
5	QUAD-BEAM TO W-BEAM RAIL

NOTE:  
TRANSITION ASSEMBLIES FOR THE QUADGUARD ELITE M10 TO THRIE-BEAM OR W-BEAM FENCE REQUIRES I-BEAM POSTS:  
ALL POSTS W6X8.5/9 I-BEAMS (78" LONG).

NOTES:  
CONTACT THE MANUFACTURER WITH SITE SPECIFIC DATA (SSD) FOR THE CORRECT BACKUP ASSEMBLY AND TRANSITION PANELS OR SIDE PANELS USED FOR STANDARD AND BI-DIRECTIONAL INSTALLATIONS: AT DIVIDED-HIGHWAY MEDIANS OR UNDIVIDED ROADWAYS WHERE THE SYSTEM IS EXPOSED TO IMPACTS FROM ONE OR TWO DIFFERENT DIRECTIONS OF TRAFFIC FLOW.

NOTE:  
THIS STANDARD IS A BASIC REPRESENTATION OF THE QUADGUARD ELITE M10 SYSTEM AND IS NOT INTENDED TO REPLACE THE PRODUCT DESCRIPTION ASSEMBLY MANUAL.

**GENERAL NOTES**

- FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: TRINITY HIGHWAY - ENERGY ABSORPTION INC. AT 1(888)323-6374.
- SEE THE RECENT QUADGUARD ELITE M10 PRODUCT DESCRIPTION ASSEMBLY MANUAL FOR IMPACT PERFORMANCE CHARACTERISTICS AND DESIGN LIMITATIONS AND THE DRAWING PACKAGE FOR THE NARROW 24" SYSTEM BEFORE INSTALLING THE QUADGUARD ELITE M10 AT ANY GIVEN LOCATION.
- FOR BI-DIRECTIONAL TRAFFIC: THE LOCATION AND OR WIDTH OF THE QUADGUARD ELITE M10 IS RESTRICTED. AS BI-DIRECTIONAL TRAFFIC APPROACHES THE REAR OF THE QUADGUARD ELITE M10, THE QUADGUARD ELITE M10 SHOULD NOT EXTEND FURTHER INTO THE TRAFFIC-SIDE OF THE BARRIER THAN THE OBSTACLE. ANY TRANSITION INSTALLED MUST EITHER BE TANGENT TO BOTH QUADGUARD ELITE M10 AND OBSTACLE OR MUST ANGLE TOWARD FIELD SIDE OF THE BARRIER.
- SYSTEM TRANSITION: APPROPRIATE TRANSITION PANELS OR SIDE PANELS WILL BE REQUIRED FOR PROPER IMPACT PERFORMANCE. THE CORRECT PANEL(S) TO USE WILL DEPEND ON THE DIRECTION OF TRAFFIC FLOW AND WHAT TYPE OF BARRIER OR ROAD FEATURE THE QUADGUARD ELITE M10 SYSTEM IS SHIELDING. SEE THE QUADGUARD ELITE M10 PRODUCT DESCRIPTION & ASSEMBLY MANUAL FOR FURTHER DETAILS.
- COMPONENTS FOR THE QUADGUARD ELITE (M10) BACKUP AND REINFORCING DETAILS ARE SHOWN ON THE QUADGUARD ELITE M10 PRODUCT DESCRIPTION & ASSEMBLY MANUAL.
- CONCRETE PAD SHALL BE 6" MIN. REINFORCED 28MPa [4,000 PSI] (P.C.) OR 8" MIN. NON-REINFORCED 28MPa [4,000 PSI] CONCRETE ROADWAY MEASURING AT LEAST 12'-0" WIDE BY 50'-0" LONG. ANCHOR BLOCK IS NOT REQUIRED WHEN USING 8" CONCRETE PAD INSTALLED AGAINST AN IMMOVABLE STRUCTURE, E.G. CONCRETE WALL.
- IF THE CROSS-SLOPE VARIES MORE THAN 2% OVER THE LENGTH OF THE SYSTEM, THE CONCRETE PAD WILL REQUIRE LEVELING. MAXIMUM PERMISSIBLE CROSS-SLOPE IS 8%.
- THE INSTALLATION AREA SHOULD BE FREE OF CURBS, ELEVATED OBJECTS, OR DEPRESSIONS.
- THE QUADGUARD ELITE M10 SYSTEM SHOULD BE INSTALLED APPROXIMATELY PARALLEL WITH THE BARRIER.
- FOR THE TENSION STRUT BACKUP THE DISTANCE BETWEEN THE BACK OF BACKUP AND THE BARRIER WALL SHOULD NOT EXCEED 7" IN ANY CASE.
- TXDOT HAS ONLY APPROVED THE 24" WIDE QUADGUARD ELITE M10 SYSTEM. THE QUADGUARD ELITE M10 PRODUCT DESCRIPTION AND ASSEMBLY MANUAL INCLUDES SYSTEM WIDTH OF 24". ONLY THE 24" SYSTEM IS ALLOWED TO BE INSTALLED ON TEXAS ROADWAYS.

FOUNDATION & ANCHORING REQUIREMENTS	
FOUNDATION TYPES: A, B, C, & D	
FOUNDATION TYPE: A	REINFORCED CONCRETE PAD OR ROADWAY
FOUNDATION:	6" MINIMUM DEPTH (P.C.C.)
ANCHORAGE:	7" STUDS EMBEDDED 5 1/2" - APPROVED ADHESIVE
FOUNDATION TYPE: B	ASPHALT OVER P.C.C.
FOUNDATION:	3" MIN. (A.C.) OVER 3" MIN. (P.C.C.)
ANCHORAGE:	18" THREADED ROD EMBEDDED 16 1/2" - APPROVED ADHESIVE
FOUNDATION TYPE: C	ASPHALT OVER SUBBASE
FOUNDATION:	6" MIN. (A.C.) OVER 6" MIN. (C.S.)
ANCHORAGE:	18" THREADED ROD EMBEDDED 16 1/2" - APPROVED ADHESIVE
FOUNDATION TYPE: D	ASPHALT ONLY
FOUNDATION:	8" MIN. (A.C.)
ANCHORAGE:	18" THREADED ROD EMBEDDED 16 1/2" - APPROVED ADHESIVE

KEY:  
ASPHALT CONCRETE (A.C.)  
COMPACTED SUBBASE (C.S.)  
PORTLAND CEMENT CONCRETE (P.C.C.)

NOTE: SEE TRINITY'S PRODUCT DESCRIPTION ASSEMBLY MANUAL FOR THE APPROVED ADHESIVE.

IF THE UNIT IS ANCHORED TO ASPHALTIC CONCRETE, IT SHOULD BE RELOCATED TO FRESH, UNDISTURBED ASPHALT AND RE-ANCHORED AFTER EACH IMPACT TO ENSURE ADEQUATE FUTURE PERFORMANCE.

TENSION STRUT BACKUP MAY BE USED IN CONSTRUCTION ZONES ON ASPHALT CONCRETE (A.C.) FOR TEMPORARY USE ONLY.

Texas Department of Transportation  
Design Division Standard

**TRINITY HIGHWAY  
ENERGY ABSORPTION  
QUADGUARD ELITE M10  
(MASH TL-3)  
QGE LITE (M10) (N) -20**

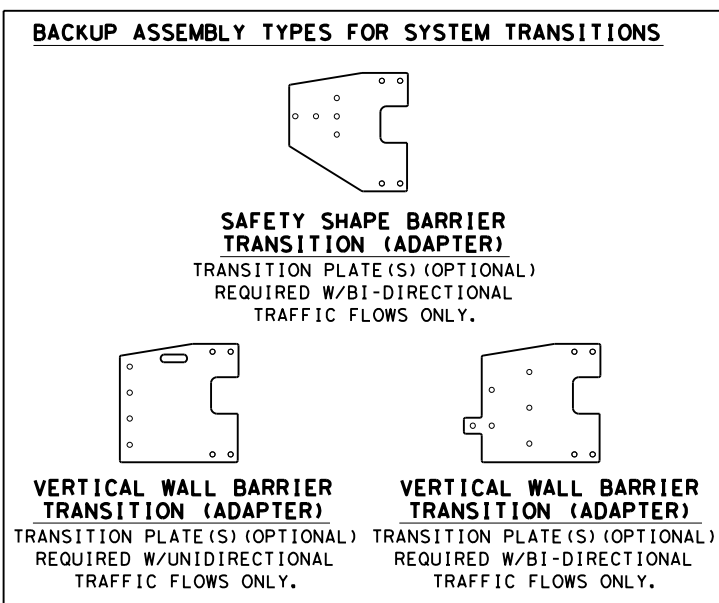
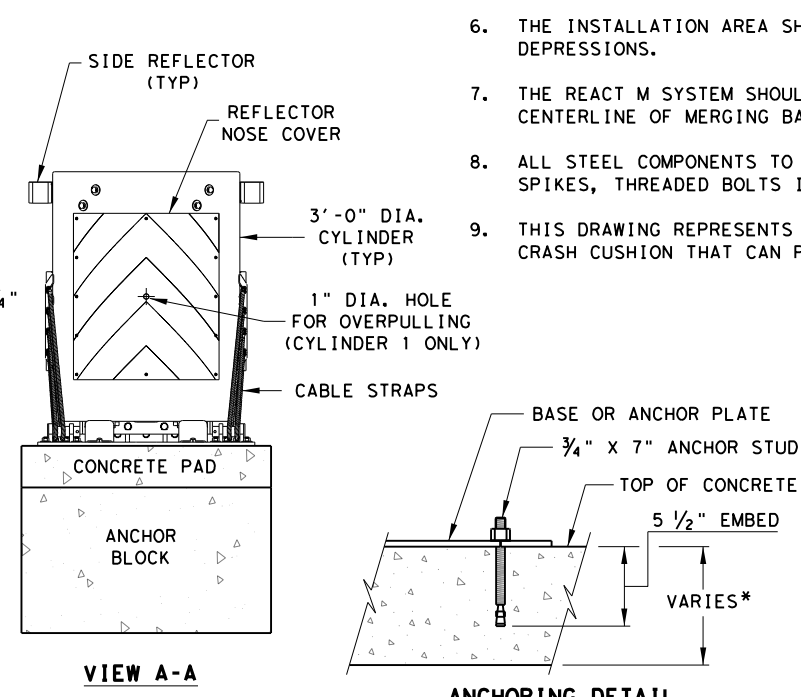
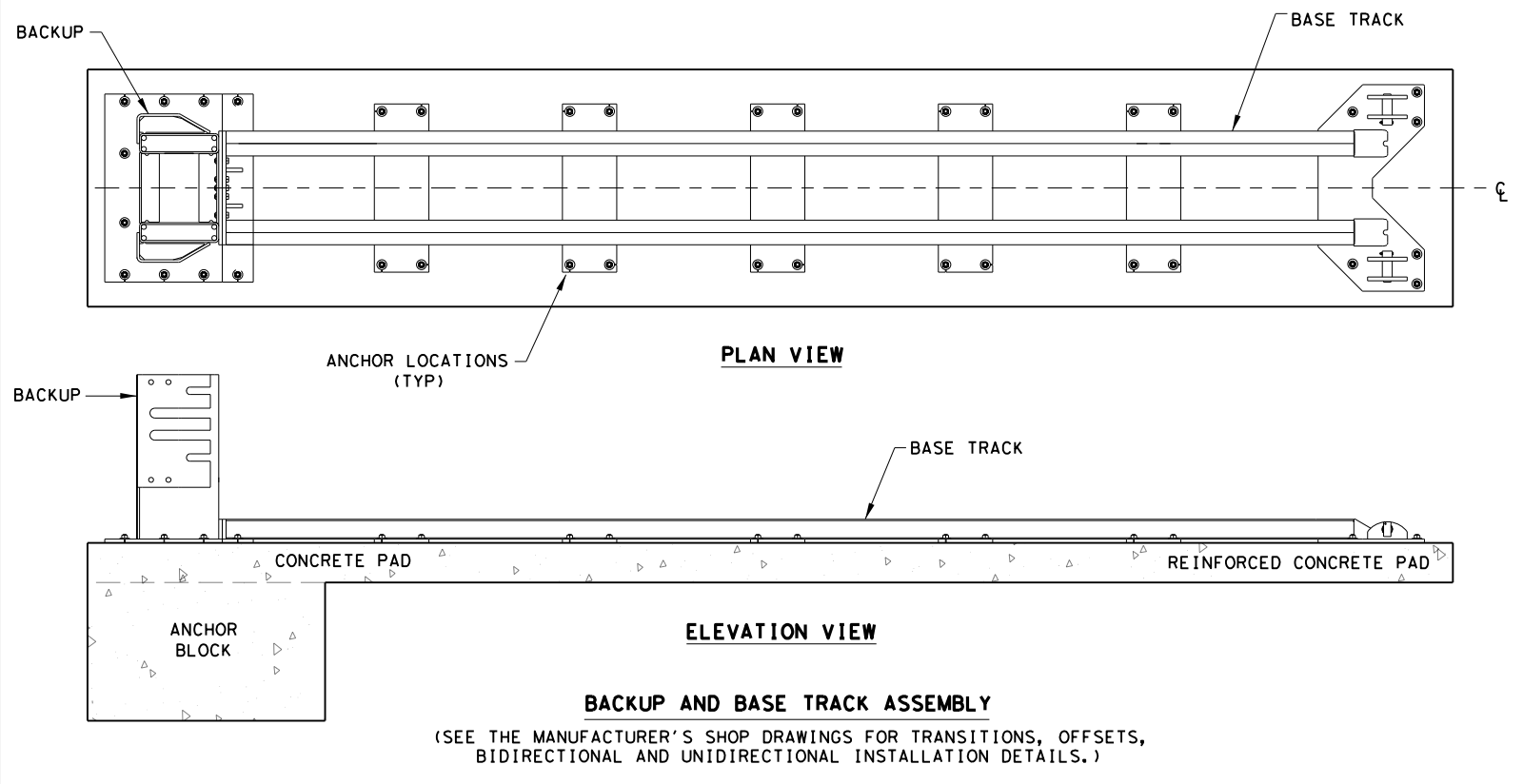
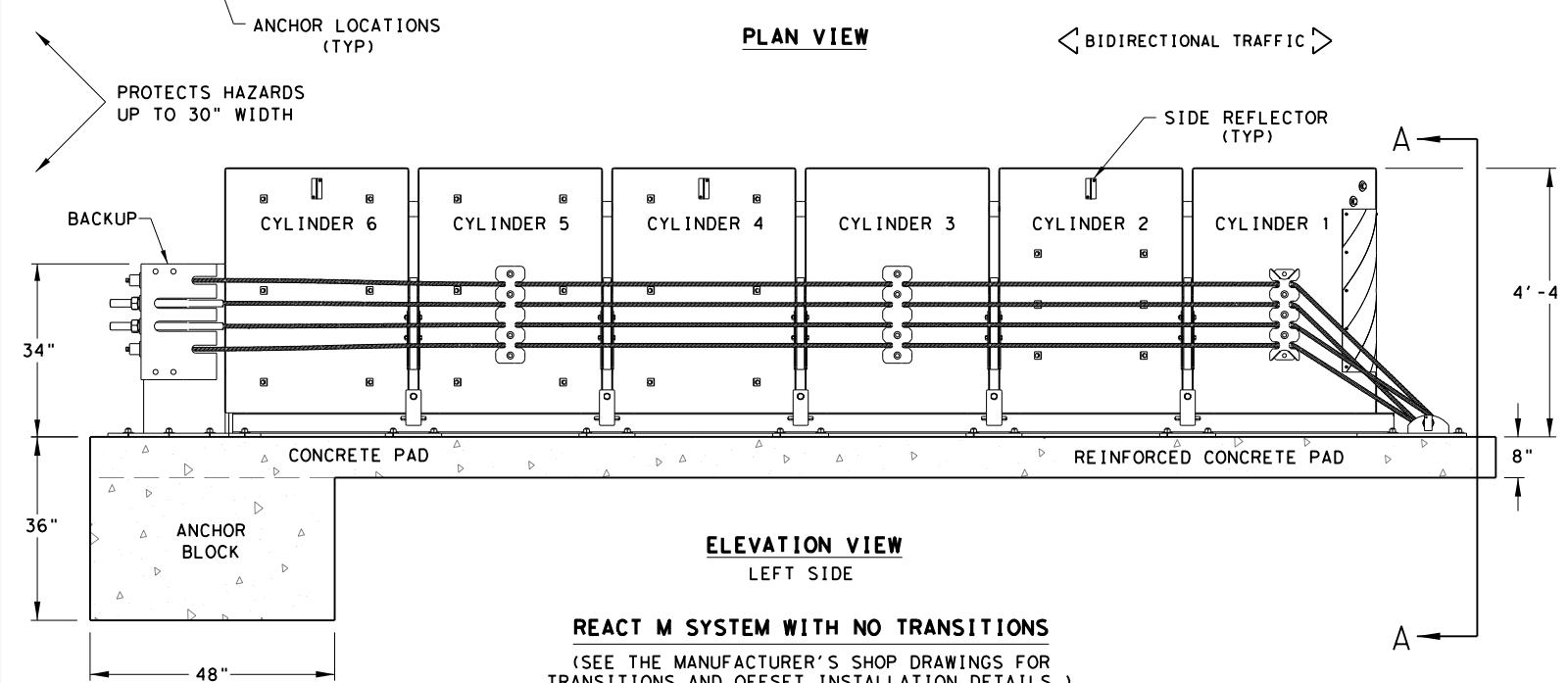
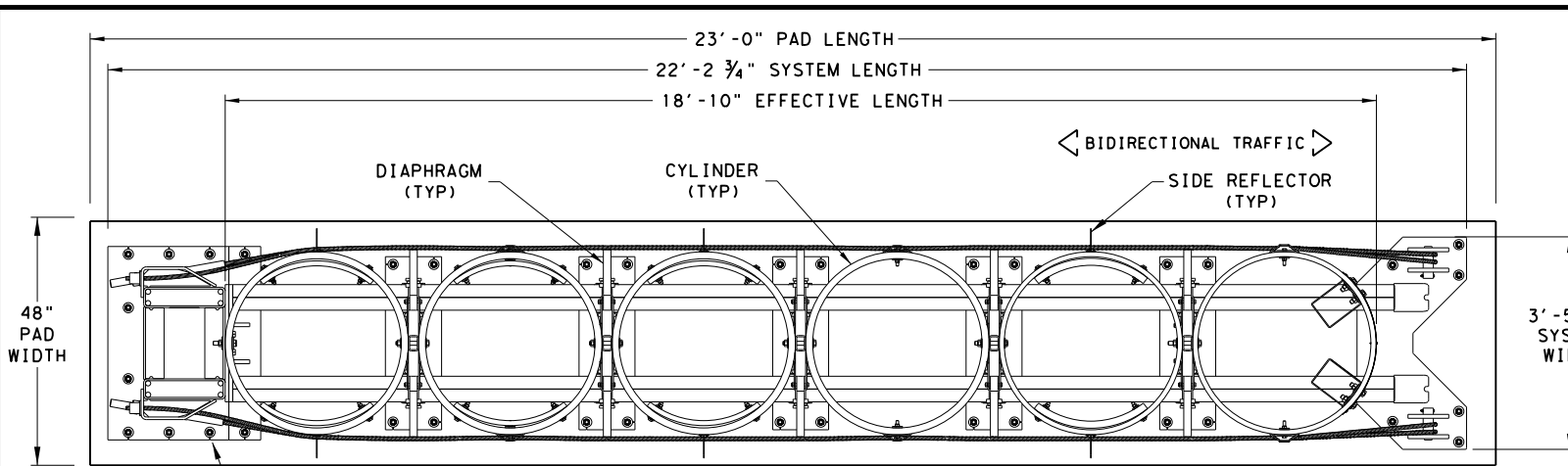
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REVISIONS	2121 05	046	IH 10	
	DIST	COUNTY	SHEET NO.	
	ELP	EL PASO	55	

REPLACED 5/19/22

**LOW MAINTENANCE**

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NOTES:  
CONTACT THE MANUFACTURER WITH SITE SPECIFIC DATA (SSD) FOR THE CORRECT BACKUP ASSEMBLY AND TRANSITION PANELS OR SIDE PANELS USED FOR STANDARD AND BI-DIRECTIONAL INSTALLATIONS: AT DIVIDED-HIGHWAY MEDIANS OR UNDIVIDED ROADWAYS WHERE THE SYSTEM IS EXPOSED TO IMPACTS FROM ONE OR TWO DIFFERENT DIRECTIONS OF TRAFFIC FLOW.

- GENERAL NOTES**
- FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: TRINITY HIGHWAY - ENERGY ABSORPTION AT 1(888)323-6374 OR WEBSITE: [www.trinityhighway.com](http://www.trinityhighway.com).
  - THE NOSE OF THE REACT M SHALL BE CLAD WITH A PLASTIC WRAP WITH STANDARD DELINEATION ADHERED TO THE WRAP AND SHALL HAVE A SERIES OF SIDE MARKER REFLECTORS ON BOTH SIDES OF THE UNIT. SEE SITE PLAN VIEWS FOR MARKER AND PLASTIC WRAP COLOR ORIENTATION.
  - FOR BI-DIRECTIONAL TRAFFIC, APPROPRIATE TRANSITION DETAILS WILL BE AS SHOWN ON THE MANUFACTURER'S SHOP DRAWINGS.
  - DETAILS OF COMPONENTS FOR THE REACT M, BACKUPS AND REINFORCING DETAILS WILL BE SHOWN ON THE MANUFACTURER'S SHOP DRAWINGS FURNISHED TO THE ENGINEER.
  - IF THE CROSS-SLOPE VARIES MORE THAN 2% OVER THE LENGTH OF THE SYSTEM, THE CONCRETE PAD WILL REQUIRE LEVELING. MAXIMUM PERMISSIBLE CROSS-SLOPE IS 8%.
  - THE INSTALLATION AREA SHOULD BE FREE FROM CURBS, ELEVATED OBJECTS, OR DEPRESSIONS.
  - THE REACT M SYSTEM SHOULD BE APPROXIMATELY PARALLEL WITH THE BARRIER OR CENTERLINE OF MERGING BARRIERS.
  - ALL STEEL COMPONENTS TO BE HOT DIPPED GALVANIZED EXCEPT STAKES, DRIVE SPIKES, THREADED BOLTS IN BACKUP UNIT, AND WEDGE FITTINGS ON CABLES.
  - THIS DRAWING REPRESENTS THE REACT M TL-3 SYSTEM, RE-DIRECTIVE, NON-GATING CRASH CUSHION THAT CAN PROTECT HAZARDS UP TO 30-INCHES IN WIDTH.

**DESIGN DATA TABLE FOR REACT M**

TEST NUMBER	TEST LEVEL	OVERALL LENGTH	TRANSITION LENGTH	SYSTEM WIDTH
3-30 To 3-36	TL-3	22'-2 3/4"	-	3'-5 3/4"
3-37A	TL-3	22'-2 3/4"	9'-10 3/4"	3'-5 3/4"
3-38	TL-3	22'-2 3/4"	-	3'-5 3/4"

**ANCHOR SYSTEM TYPE**

APPROVED ADHESIVE, 7" STUDS, 5.5" EMBEDMENT

**FOUNDATION TYPES**

MINIMUM 8" REINFORCED PORTLAND CEMENT CONCRETE PAD (REQUIRED REINFORCING STEEL FOR CONCRETE PAD SHALL BE SHOWN ON THE MANUFACTURER'S SHOP DRAWINGS.)

MINIMUM 8" NON-REINFORCED PORTLAND CEMENT CONCRETE ROADWAY MEASURING AT LEAST 12' WIDE BY 50' LONG)

MINIMUM 7" CONCRETE DECK STRUCTURE, OR MINIMUM 6" REINFORCED CONCRETE ROADWAY

NOTE:  
THIS STANDARD IS A BASIC REPRESENTATION OF THE REACT M SYSTEM AND IS NOT INTENDED TO REPLACE THE PRODUCT DESCRIPTION ASSEMBLY MANUAL.

ADDED 5/19/22

Texas Department of Transportation  
Design Division Standard

**TRINITY HIGHWAY ENERGY ABSORPTION CRASH CUSHION REACT M (NARROW) (MASH TL-3) REACT (M) -21**

FILE: reactm21.dgn	DN: TxDOT	CK: KM	DW: SS	CK: CL
©TxDOT: JULY 2021	CONT	SECT	JOB	HIGHWAY
REVISIONS	2121	05	046	IH 10
	DIST	COUNTY	SHEET NO.	
	ELP	EL PASO	55A	

**LOW MAINTENANCE**