HS 4.0 Executive Summary

For years, the Texas Department of Transportation (TxDOT) and other local agencies have studied and planned on how best to reduce congestion in and around the IH 30/IH 35E Mixmaster, as well as reconstruct the rapidly deteriorating bridges that cross the Trinity River. The result of this strategic planning effort is the Horseshoe Design-Build Project, which will upgrade the roadway geometry, replace the IH 30 and IH 35E bridges over the Trinity River and their Mixmaster tie-ins, as well as construct the signature cable-stayed Margaret McDermott Bridge.

In our proposal and bid preparation, DHS has committed to building this Project to meet the highest industry standards in quality and safety, as well as establishing a new benchmark for commuter mobility during highway design and construction. We have optimized approaches to roadways and structures to ensure the long-term performance of the roads and bridges while delivering the Project with little or no risk to TxDOT and its stakeholders.

(a) Proposal Organization and Contents

Our proposal follows the Instructions to Proposers (ITP) format and instructions. Listed below are the major elements contained in our proposal:

A	**Executive Summary**
B	**Proposer Information, Certifications and Documents**
C	**Project Development Plan**
	4.1 - Technical Solutions
	4.2 - Project Management Plan
	4.2 - Quality Management Plan
D	**Appendices**
E	**Proposal Security**

DHS's team of design-build professionals has carefully studied the Technical Provisions and generated plans and approaches to meet, or in many cases, exceed requirements. We have been mindful of TxDOT goals for the Project. The icons to the right correlate to the Project goals, highlighting where we meet or exceed requirements within our proposal and to guide you through our approach.

(b) Changes to Proposer's QS

There are no changes to the DHS QS outside of the information in subsection (c), below.

(c) Changes in Proposer's Organization, Equity Members, other Major Participants and Key Personnel Since Submission of QS

There have been no changes to the DHS organization since the submission of the QS. Granite, CH2M HILL and Traylor Bros. remain as the Equity Members of DHS, with no other firms added.

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All Major Participants remain committed to the team in the roles outlined in the QS.

The following key personnel have been approved and added to our team:

Name	Position	Role
Glenn Walsh, P.E.	Deputy Project Manager - Design	Lead coordinator for design and construction task forces
Gary Brown	Deputy Project Manager – Construction	Oversees and supports construction operations relating to safety, quality, costs, schedule, and administration
Ed Kitzman	Superintendent/Construction Manager	Daily oversight of construction field operations
Kim Nokes, P.E. *(pending)*	Lead Roadway Design Engineer	Leads design and task force of roadway engineering
Doug Brister, P.E.	Professional Services Quality Control Manager	Manages quality program for design, utilities, and survey
Bob Burns, P.E.	Construction Quality Control Manager	Manages all quality control aspects of the CQMP
Scott Maynor, P.E.	Utility Manager	Facilitates coordination and communication with utilities during design and construction
Joe Graf, P.E.	Alternate - Capital Maintenance Manager	Oversees capital maintenance program during construction and the capital maintenance period
Chuck Royko	Maintenance QC Manager	Manages quality control during the capital maintenance period
Ruben Landa	Alternate - Public Relations and Community Outreach	Leads daily public involvement activities

Although they do not fall into the Equity Member or Major Participant categories, DHS has strengthened our team since the QS was submitted by adding the following subcontractors and subconsultants:

» K-Strategies, a local DBE-certified firm, will assist Dan Galvin with the development and implementation of the Public Information (PI) program.

» Summit Engineering and VAK Construction Engineering Services, LCC have been added as design subconsultants for their expertise in structures and cable-stayed bridges.

(d) Management, Decision Making and Day-to-Day Operating Structure

Proposed Management Structure: A key differentiator of DHS is that all Equity Members and Major Participants function as an integrated team. Our Project Management Plan places all Key Personnel, regardless of which company the team member works for, in a role that best suits the experience and talent of that individual. This organizational structure fosters a truly integrated team working together toward achieving the Project's goals.

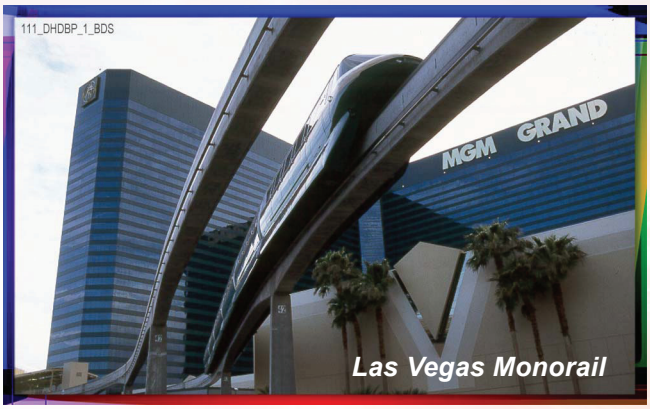
Our management team is led by **Project Manager George Harvey,** a 33-year construction veteran. He has worked exclusively on design-build projects for the last 19 years and served as project manager for three large highway projects constructed using

The "NEW" I-64

this delivery method. His most recent assignment was as project manager for the $437 million I-64 design-build project in St. Louis, MO. This highly successful project finished ahead of schedule, on-budget, and won over 20 awards for quality, production, and public involvement.

George is supported by an outstanding group of Key Personnel who will drive Project delivery from start to finish, including:

Glenn Walsh, P.E., Deputy Project Director - Design, will report directly to George and brings the necessary design-build experience and communication skills for oversight of design and construction teams during the design phase. Glenn will be responsible for leading constructability reviews, expediting the release of early work packages and ensuring the design progresses according to the Technical Provisions. He has over 20 years of experience on design-build projects such as the Las Vegas Monorail, Houston METRO LRT and I-64.

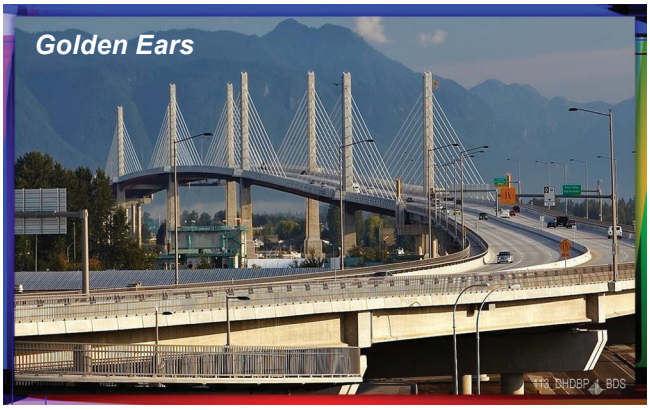


Las Vegas Monorail

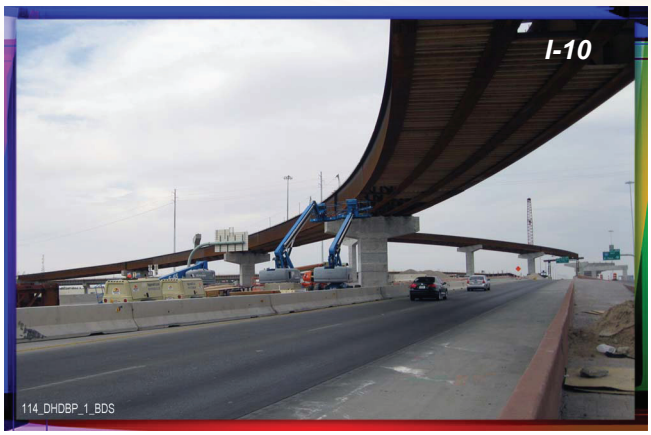
Houston METRO LRT

Gary Brown, Deputy Project Manager - Construction, will report directly to George and is responsible for coordinating construction activities for public safety, quality, schedule, project controls and public information. Gary is currently the Construction Manager for the East End corridor of the $1.4 billion Houston METRO LRT project, and has experience constructing highways in the DFW metroplex on the President George Bush Tollway, Section 22 as well as the PGBT/ IH 35 Interchange.

Christine Bisio, P.E., Design Manger, reports to Glenn and will lead the design effort, as well as ensure that the required design resources are dedicated to the project. She will oversee design submittal reviews produced by the JV and design subconsultants, as well as performing interdisciplinary coordination between design Task Forces. Christine has 31 years of experience on large transportation projects such as Golden Ears in Vancouver, BC and has a proven track record of identifying design enhancements to accelerate schedule while reducing costs.


Golden Ears

Ed Kitzman, Superintendent/Construction Manager, reports to Gary and is responsible for the execution of all field construction, including work self-performed by DHS and the work of all subcontractors. Ed has more than 20 years of experience on complex design-build highway, bridge and interchange projects. He is currently the construction manager for the America's Interchange design-build project in El Paso that is building three direct connectors under live traffic at the existing interchange at I-10 and Loop 375.



Our onsite design-build team is supported by the Joint Venture Executive Committee, which consists of Rob Pierce, Brian Steiritz and Tom McCarthy. The Executive Committee will meet with the Project team quarterly and will remain engaged throughout the duration of design, construction and maintenance. Their responsibility focuses internal issue resolution, assuring appropriate allocation of resources and that the Project team is achieving all goals.

Decision Making Process: DHS has formed a collaborative partnership to engage in transparent communication with TxDOT and all stakeholders, which will result in a project that generates community acceptance and goodwill. We encourage participation and input on all aspects of our design-build processes in both management and Task Force meetings. With TxDOT participation, we will create a decision-making matrix starting at the field foreman level up through the Executive Committee, with DHS and TxDOT counterparts

identified and assigned. All DHS staff, including design, construction, safety and quality personnel, will know who they report to, their level of authority and Project role, as well as their TxDOT counterpart for decision making.

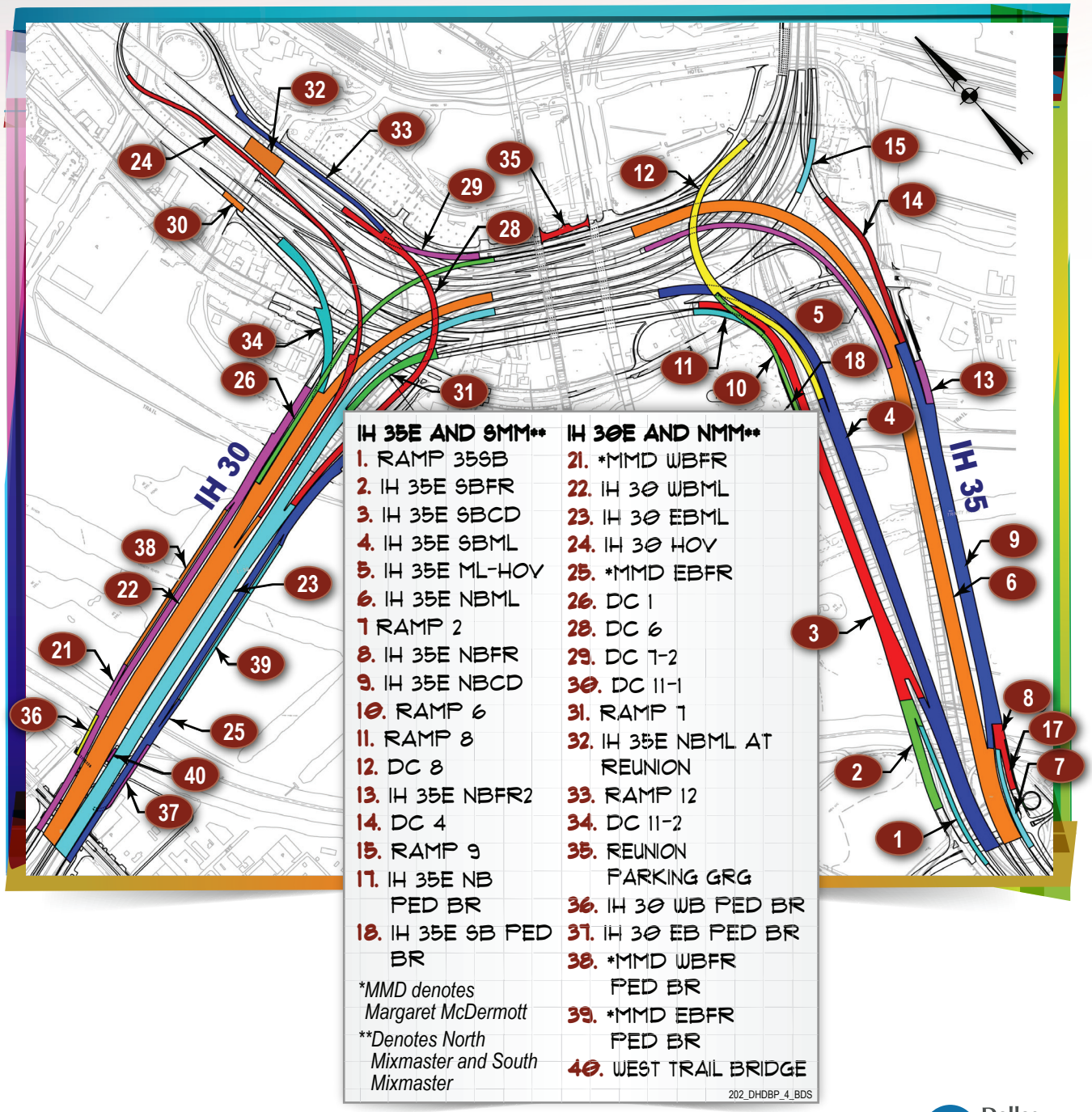
Commitment: Granite, CH2M HILL, and Traylor Bros. commit to TxDOT that the individuals identified and designated for the positions described in this proposal will be available and assigned to the Horseshoe project. DHS further understands that requests for changes to personnel will be governed by the terms of the contract.

(e) Project Development Plan Summary

Technical Solutions Summary

The DHS Technical Solutions provides detailed means and methods for solutions to the technical issues presented by the project, as well as a roadmap for the DHS approach to meeting all project goals. DHS commits to maintaining traffic at its current mobility levels and completing the project ahead of schedule, as well as completing all work elements with superior quality.

EXHIBIT 4.1.1.2 **Bridges and Surface Structures**



Dallas Horseshoe Solutions

4.1.1.1 – Construction Staging, Sequencing and Traffic Management

The DHS solution to providing mobility during construction is to divide the project into 3 segments that can be worked on simultaneously through 5 phases of construction:

- DHS has developed a Master Staging and Phasing Matrix detailing sub phases, operations, traffic shifts and interim milestones for each of the Project's 5 Phases. This is provided in the Appendix to Volume 1 of this proposal.
- Each phase of construction maintains the existing level of mobility at a minimum.
- We will use no planned closures other than allowed by Section 18 tables of Technical Provision.
- DHS will maximize the use of work at night and/or during off-peak hours for bridge deck pours, beam and girder hauling and placement, and bridge demolition so that these activities will not impact traffic.
- Phase 1, encompassing over half of the project's structures, will be built without impacting current traffic movements.
- When traffic shifts occur in phases 2-4, the level of mobility on new alignments is greater than on existing roadways.
- Local community leaders, businesses and the general public will be apprised of traffic conditions via clear signage, daily updated DMBs and a proactive Public Information program developed from previous award-winning DHS projects.
- DHS has well-planned and ready to implement TMP and TCPs that exceed Section 18 Technical Provision requirements.

4.1.1.2 – Bridges and Surface Structures

The DHS bridge sequencing plan facilitates efficient constructability—completing more than half the bridges in Phase 1— while minimizing impacts to motorists and improving safety, decreasing costs, and maintaining or enhancing mobility by:

- Eliminating temporary and permanent bridges by reducing bents, foundations, bridge rail, and bridge deck resulting in optimized project life cycle (less to maintain), expedited delivery, and reduced overall cost of the project
- Optimizing TxDOT standards while exceeding aesthetic requirements
- Minimizing footprint in the Dallas Floodway, thereby reducing impacts to the levee areas with less construction material on the bridge foundations
- Accommodating future improvements described as part of the Ultimate Scope

4.1.1.3 – Aesthetic Design

We have established 1 percent of our bid as an allowance for enhanced features that exceed the current contractual aesthetic plan, and provide a menu of options for TxDOT, the City of Dallas and the community to decide what features they would like to spend it on.

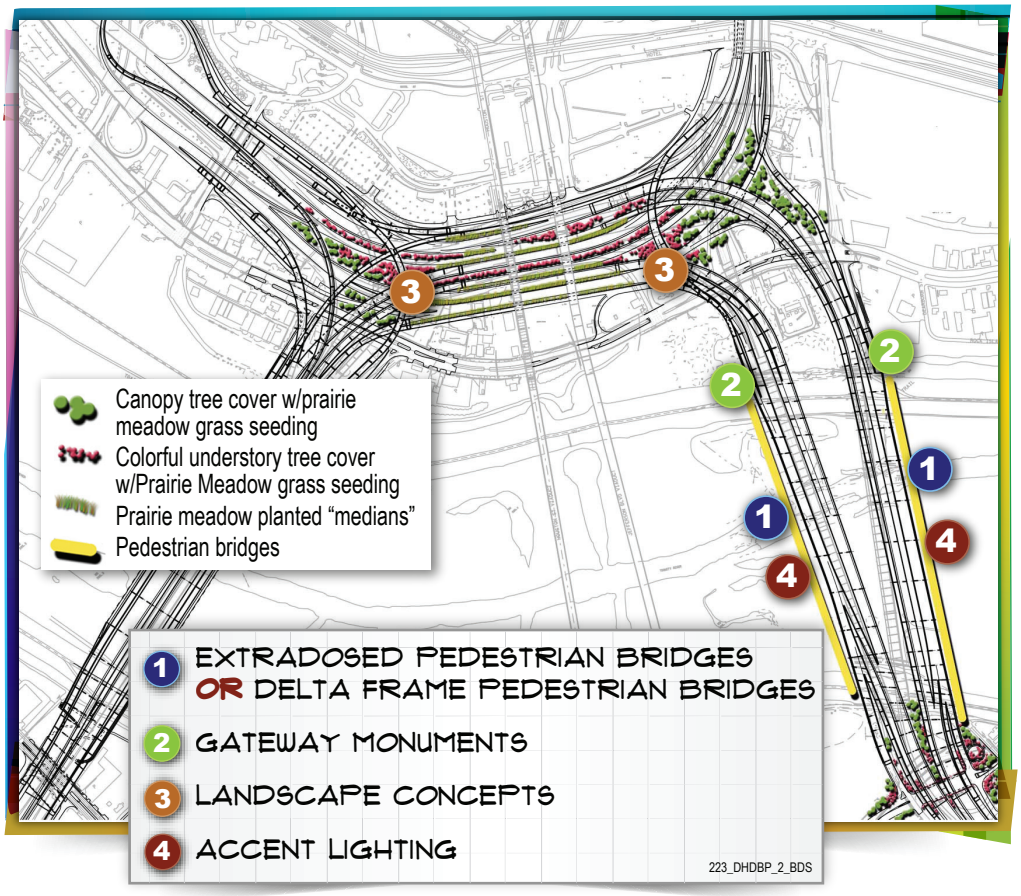


EXHIBIT 4.1.1.3 **Aesthetic Design**

This allows us to:

- Provide a platform for communication and agreement on desired features within the prescribed budget to ensure satisfaction with little or no risk to TxDOT and the performance integrity of the project or the overall design.
- Incorporate community and City of Dallas interests in the 100-year design life of the IH 35E structures.
- Facilitate partnering with stakeholders to ensure enhancements are decided within 90 days of NTP1 to avoid impacting project schedule.

4.1.1.4 – Environmental Permitting, Mitigation and Impacts

DHS will comply with existing commitments in the EPIC and coordinate and attain permits in a timely manner to expedite delivery of the project by:

- Early and open communication with permitting agencies to gain trust and expedite approvals.
- Paying attention to small but important details, such as the Texas pigtoe mussel relocation and the Houston Street viaduct railing replacement.
- Taking a conservative approach to hazardous materials work.
- Planning and implementing in advance to maintain a safe construction site and project schedule.
- Monitoring design and construction progress to anticipate upcoming tasks or coordinate approvals needed to implement changes.
- Eliminating temporary and permanent bridges, reducing bents, foundations, bridge rail, and bridge deck resulting in optimized project life cycle (less to maintain), and expedited delivery, and reduced overall cost of the project.
- Optimizations and redesigns of schematics maintains all vehicular traffic movements and access.
- No loss of functionality – mainlanes operations are improve by eliminating lane drops, minimizing weaving, and meeting driver expectations.
- Re-alignments reduce materials and cost and allow construction to progress safely in areas previously restricted by existing facilities.
- Future improvements described as part of the Ultimate Scope are accommodated.

4.1.2 – Maintenance Plan

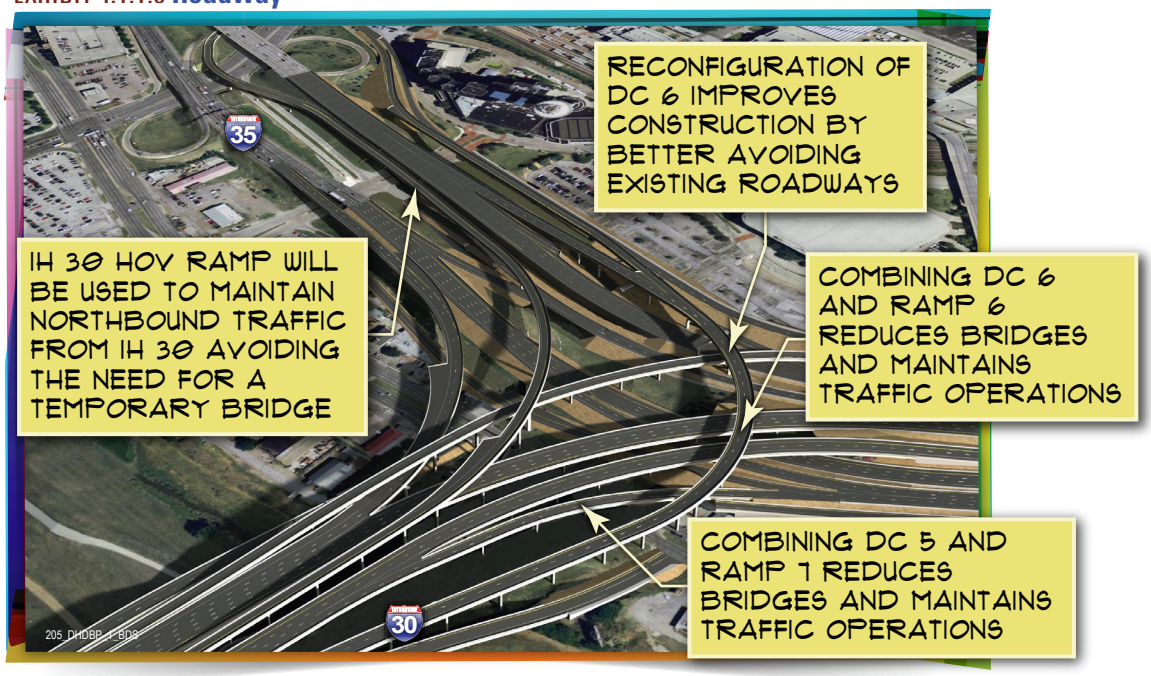
DHS has selected Infrastructure Corporation of America to provide Capital Maintenance for the project. ICA are experts in this field:

- TxDOT compliant Inspection and Correction plans already developed and ready to implement
- ICA subsidiary Florence and Hutcheson, Inc., a TxDOT pre-certified bridge firm, will be used for structures inspection.
- ICA will provide a proven Capital Maintenance Manager and Maintenance Quality Manager who have worked together on TxDOT projects.

4.1.1.5 – Roadway

We have optimized the geometry of ramps and connectors in Mixmaster while maintaining access, levels of mobility, capacity and required movements to maintain mobility for drivers and access for business, including:

EXHIBIT 4.1.1.5 **Roadway**



4.1.3 – Preliminary Project Baseline Schedule

DHS has developed a Preliminary Baseline Schedule with WBS Level IV detail that shows early project completion in 1,380 days over a 46 month project duration, as well as:

- Design plan ensures that construction will start August 1, 2013.
- 5 phase construction plan divides Horseshoe work into 3 sections- IH 30, IH 35E and Mixmaster.
- P6 CPM schedule will streamline schedule and actively detail progress throughout design, construction, and maintenance.
- Pre-phase work will ensure minimal traffic disruptions before main construction work begins.
- Multiple construction squads will engage in work at different locations of the Project at the same time, maximizing efficiency.

4.1.4 – Drainage

Our approach ensures levels of mobility are maintained during construction while minimizing impacts to the driving public:

- DHS's drainage concept plans are integrated with the 5 phases of the maintenance of traffic concept so that systems can be constructed in their entirety within each phase of MOT– expediting project improvements and minimizing public impact.
- Reduction of temporary connections and throw-away, minimization of partial pipe runs and elimination of jack and bores across the existing highway system improves construction efficiency and allows earlier operation of the drainage system.
- Stormwater system approach preserves existing drainage basin boundaries, accommodates existing offsite drainage areas into the new collection system, utilizes existing outfalls where the capacity is sufficient, and enhances and enlarges the Able Sump drainage collection and storage systems.

4.1.5 – Geotechnical and Earthwork Plan

The DHS geotechnical and earthwork plan includes:

- Geotechnical testing to ensure stability and safety.
- Conducting geotechnical testing within ROW to minimize impacts to property owners.
- Proposed shaft geotechnical testing limits construction risk and increase 100-year design.
- Our commitment to return the testing area to pre-work conditions minimizes community concerns and risk of altered property values while increasing project value.

4.1.6 – Utility Adjustments

We have developed a utility plan that is unparalleled in detail, communication and planning:

- Extensive investigation and coordination during the bid phase has generated data on locations of all utilities, identification of conflicts and all related owner information. All of this data is captured on our detailed Utilities Tracking Matrix to provide an expedited delivery schedule unimpeded by utility relocations.
- DHS has already mitigated potential conflict locations by alternate bridge and retaining wall designs to avoid impacts to the project and schedule.
- Utility Adjustments have been overlaid with our MOT plan to minimize traffic impacts and ensure maintained mobility.
- The DHS team has contacted the owner of each utility in the Project limits, and all potential conflicts and solutions are logged and tracked on our detailed Utility Matrix and Relocation Concept Plan.

4.1.7 – Connectivity/Interconnections

DHS's approach includes stakeholders as key project participants through specific Task Forces for project elements that impact/interconnect with adjacent projects:

- Our Project Manager and other Key Discipline Leads attend public meetings or coordination meetings sponsored by the stakeholders.

EXHIBIT 4.1.7 **Connectivity Interconnections**

» DHS establishes a Stakeholder Communications Committee.

» Personnel from adjacent projects as well as other community stakeholders are briefed on project progress and upcoming work.

» DHS Team Member firms' involvement in nearby projects provides exceptional understanding of stakeholder goals, which will aid in addressing these needs as part of the Horseshoe Project.

» DHS's knowledge of hydraulic conditions and models in the Trinity River will expedite project approvals, including 408 construction approval and compliance.

Project Management Plan Summary

The DHS Project Management Plan introduces our integrated team of Key Personnel and other management staff and describes how we will collaborate to meet project challenges and deliver a successful project. It also outlines our approach to managing and directing DHS's substantial resources including experienced staff, management tools, and design-build processes proven to be successful on similar projects. Our management plan includes communication and coordination strategies with TxDOT, City of Dallas, resource agencies, neighborhoods, traveling public and other key stakeholders.

4.2.1 – General Project Management

Our integrated design-build approach built around Task Forces and formal meetings that integrate design, construction, maintenance, TxDOT and subcontractor staff to communicate and collaborate to secure compliant design, quality construction and maintenance services, and identify optimizations to expedite delivery and save TxDOT money:

» Stakeholder integration approach that invites key stakeholders to formal coordination meetings and also sends our senior management staff to key meetings sponsored by stakeholders – ensuring we capture unique public needs.

» Safety program that integrates the award-winning best practices of all three JV firms to ensure a safe project for workers, travelers, and the public as a whole.

» Project Manager and all Key Staff are experienced in similar, relevant projects – large, urban, complex interchange design-build projects with similar stakeholder/environmental, traffic, and schedule challenges.

» All of our key proposed staff have been involved in the bid phase, working together since March.

EXHIBIT 4.2.1 **Project Office**

4.2.2 – Risk Management

We have developed an optimized Risk Matrix to facilitate specific and intensive risk mitigation strategies and overall risk preparedness, including:

» Detailed execution strategy decreases overall risk probability and will ensure timely, safe, and budget-conscious completion of Project.

» Project staff will be assigned to separate risk categories to further minimize risk probability.

4.2.3 – Construction and Traffic Management during Construction Period

Our MOT plan divides the project into 3 segments that can be worked on simultaneously through 5 phases of construction allowing for expedited delivery of project improvements and early removal of deficient structures:

» Each phase of construction maintains the existing level of service at a minimum to ensure mobility through the project.

» No planned closures other than those allowed by the Technical Provisions, minimizing negative impacts to the public.

» Major phases of construction are constructed away from traffic providing for safer work zones.

» Phase 1 will be built without impacting current traffic movements.

» When traffic shifts occur in phases 2-4, level of service on new alignments is greater than on existing roadways.

» Meet with TxDOT, local agencies and business leaders in advance of each phase being implemented.

» Award-winning Public Information Manager Dan Galvin will lead the effort of informing the public well in advance of closures, detours and lane shifts.

4.2.4 – Public Involvement and Communication

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DHS will work closely with TxDOT public relations personnel to "speak with one voice" in providing timely and consistent information to the public by:

» Combining face-to-face communication with local community leaders and businesses with modern technology such as a project website, SmartPhone apps and GPS guidance to spread the most current project updates and travel routes to maintain mobility during construction.

» Solicit feedback and facilitate two-way communication with the public to continuously improve and refine the PI program and recognize the unique characteristics of the impacts of this project on the public.

» Institute a formal, facilitated Partnering program.

» Make PI a weekly Task Force meeting function.

» Allocate space in the co-located project office for PI "Command Center".

4.2.5 – Schedule and Cost Control Management

We will use Project Controls to manage schedule and cost by:

» Using advanced software programs for scheduling and cost management.

» Tracking progress via weekly Task Force meetings to ensure the project progresses on-time and on-budget.

» Updating cost and schedule in real time when data from the field is input.

» Data output from Contract Manager and P6 is captured and posted to SharePoint to allow easy access to current information.

4.2.6 – Environmental Management

A comprehensive environmental management approach integrated within the overall project management plan will facilitate compliant quality design and construction:

» Our coordinated environmental management approach, executed based on experience in other design-build projects, will support the expedited delivery of project improvements.

» Following the principle of continuous improvement, the DHS Environmental Management System will institute a strong commitment to environmental compliance at the highest levels of the organization throughout all phases from design, to construction and through maintenance periods.

4.2.7 – Design Management

DHS has a fully integrated design-build-maintenance team during design to focus on project objectives to ensure compliant, quality, constructability, and maintainable designs:

» Full transparency with TxDOT through co-located office approach yields continuous coordination and "no surprises" – allowing for early delivery of designs to expedite construction.

» Inclusion of key stakeholders in Task Force approach ensures full cooperation recognizes public inputs of unique project characteristics.

» Our highly seasoned design-build team knows what it takes to achieve project success, with little or no learning curve.

» Review comments from early design packages are systematically incorporated into subsequent packages for continuous improvement of design quality.

» Construction input during design development will enhance constructability, minimize field design changes, and expedite overall project schedule.

4.2.8 Maintenance and Traffic Management during Maintenance

DHS has selected ICA to provide Capital Maintenance services for the Horseshoe Project. ICA is a pioneer in the delivery of performance-driven transportation maintenance services and understands TxDOT procedures and expectations from their experience maintaining 230 TxDOT highway centerline miles:

» This experience will ensure that TxDOT receives compliant and quality maintenance services. For Traffic management, we will actively coordinate with the DalTrans Traffic Management team to support TxDOT goals for restoration of traffic, reduced traffic congestion, and optimum mobility.

» ICA currently manages and maintains 3,700 lane miles, 3,187 structures, and 164 facilities on behalf of State Departments of Transportation, Toll Authorities, and local governments using a systematic approach to transportation asset management, maintenance, and rehabilitation.

4.2.9 – Mentoring and Job Training

DHS will develop and maintain offerors/bidders lists of Disadvantage Business Enterprises (DBEs) from a variety of sources and implement an active outreach to maximize interest and participation from the DBE and small business community:

» We have proven training programs and curriculum from similar design-build jobs that can be applied here to develop the technical, craft, and business expertise of the DBE community.

» We use our combined design-build experience to right-size scopes of work to maximize subcontract opportunities for smaller firms.

» DHS will use a Fast Track Measure R Training Academy, a 14-week series of classes designed to provide DBE firms with the tools, training, and insight to grow their businesses.

DHS has already started a DBE outreach effort to generate interest and communicate opportunities, holding a local DBE event for the Horseshoe Project on August 29, 2012.

Quality Management Plan Summary

DHS member firms are known throughout the design and construction industries for the quality of their projects built around the nation. Our award-winning previous design-build experience gives us a fully-developed QMP ready to implement upon notice of award. Our quality organization operates with clearly defined roles and reporting structures for QA and QC, and is staffed with highly qualified personnel to ensure:

» All project personnel understand TxDOT quality requirements

» Work is done right the first time

» Results are checked and documented

» The quality program focuses on continuous improvement

DHS commits to exceeding the Project's Technical Provisions by certifying the Horseshoe quality program with ISO 9001:2008 standards.

(f) Approach to Satisfy DBE Requirements

DHS will provide significant opportunities for local DBEs, as well as utilizing firms listed in the Texas Unified Certification Program to maximize DBE involvement and exceed the DBE goal. In addition to our commitment to the workforce diversity and active apprenticeship program, we will also implement an aggressive Mentoring and Job Training Plan aimed at increasing the knowledge and skill of DBE subcontractors and craft workers alike, while still giving them enough autonomy to perform commercially useful functions on the Project.

Subcontractors appreciate working with Granite, CH2M HILL, and Traylor Bros. We treat them fairly, ethically and with integrity, and we honor our bidding commitments. Additionally, we stay on schedule, maintain clean and safe work sites, and pay promptly. These characteristics encourage qualified subcontractors to aggressively compete for the Project's many business opportunities. We will base subcontractor selection on proven ability, value offered and commitment to the Project's goals.

Summary Statement

DHS will design and construct the Horseshoe Project with optimum mobility for the traveling public and set a new standard for Public Information programs on transportation projects in Texas. We will deliver a product with superior quality to enhance the long-term performance of the roads and bridges built by the project . By exceeding project requirements, we ensure that the project will be delivered with little or no risk to TxDOT and its stakeholders.