



AUTORIDAD METROPOLITANA
DE AUTOBUSES

AMA

GOBIERNO DE PUERTO RICO

AUTORIDAD METROPOLITANA DE AUTOBUSES

AVENIDA DE DIEGO NÚM. 37
URB. SAN FRANCISCO
SAN JUAN, PR 00927

SUBASTA INFORMAL NÚM. 45-2526-003 **PROYECTO DE CONSTRUCCIÓN DE MEJORAS DE LA** **ENTRADA PRINCIPAL DE LAS OFICINAS CENTRALES**

FECHA DE EMISIÓN:

7 DE AGOSTO DE 2025

FECHA DE REUNIÓN PRESUBASTA:

14 DE AGOSTO DE 2025; 9:30AM

FECHA DE ENTREGA DE OFERTA:

28 DE AGOSTO DE 2025; EN O ANTES 9:00AM

FECHA DE APERTURA:

28 DE AGOSTO DE 2025; 9:30AM

Las instrucciones de esta subasta, incluyendo sus anejos, estarán disponibles en:

www.dtop.pr.gov/ama

También estarán disponibles en la sede de la Autoridad Metropolitana de Autobuses, en la dirección que aparece en el encabezado, durante el horario regular.

Año Fiscal 2025-2026.

37 Ave. De Diego Urb. San Francisco, Río Piedras / Box 195349, San Juan, P.R. 00919-5349

Teléfono 787-294-0500 / Fax 787-751-0527

Iniciales del Proponente: _____

ÍNDICE

- I. INSTRUCCIONES (A a la AA)
- II. ESPECIFICACIONES TÉCNICAS
- III. PLANOS
- IV. CLÁUSULAS FEDERALES
- V. ANEJOS
- VI. HOJA DE OFERTAS

Iniciales del Proponente: _____

I. INSTRUCCIONES (A - AA)

Iniciales del Proponente: _____

PREÁMBULO

A. LA AUTORIDAD METROPOLITANA DE AUTOBUSES

La Autoridad Metropolitana de Autobuses (AMA) fue creada al amparo de la Ley Núm. 5 de 11 de mayo de 1959, según enmendada. Entre sus principales funciones está el desarrollar, mejorar, poseer, funcionar, y administrar facilidades de transporte terrestre de pasajeros en el área metropolitana. La AMA está autorizada a adquirir aquellos bienes, servicios, u obras, necesarios para la operación de la entidad. Según el Artículo 4 de la Ley Núm. 73-2019, según enmendada, la AMA está exenta de realizar sus compras a través de la Administración de Servicios Generales (ASG).

B. BASE LEGAL

Esta Subasta Informal se realiza a tenor con las disposiciones del Reglamento I-23-01 (9415), conocido como Reglamento de Adquisiciones de Bienes, Obras de Construcción, y Servicios no Profesionales de la AMA.

C. NECESIDAD Y ENTREGABLES

La AMA tiene la necesidad de optimizar el acceso vehicular principal desde la Ave. Jose de Diego, con el objetivo de reforzar la seguridad y mitigar la congestión en horas de alto flujo de tráfico.

INSTRUCCIONES

A. FORMULARIO

Todos los licitadores presentarán su oferta en el formulario provisto para ello, titulado "Hoja de Ofertas". Si fuera necesario, se podrán añadir hojas para aclarar o describir más detalladamente su oferta, pero en este caso tendrán que hacerlo en procesador de palabras y en papel timbrado del licitador. La invitación, instrucciones y formularios relacionados a esta Subasta Informal se encuentran en www.dtop.pr.gov/ama. También podrá adquirir copia física en:

AUTORIDAD METROPOLITANA DE AUTOBUSES

Avenida de Diego Núm. 37
Urb. San Francisco
San Juan, Puerto Rico 00927

Iniciales del Proponente: _____

B. DEFINICIONES

Días - significará días según el calendario.

C. ITINERARIO

En la Tabla 1 se presenta un resumen de las principales actividades relacionadas con esta Subasta Informal. Las fechas, horarios y actividades están sujetos a cambios y pueden ser revisados a través de la emisión de enmiendas presentadas por parte de la AMA.

Tabla 1: Itinerario de la solicitud de propuestas sellada:

Evento		Fecha y Hora
Convocatoria (Invitación y publicación)		7 de agosto de 2025
Disponibilidad de pliegos		7 de agosto de 2025 Hasta 27 de agosto 2025
Reunión presubasta		14 de agosto de 2025; 9:30am
Inspección del proyecto		14 de agosto de 2025; 10:00am
Fecha límite para enviar preguntas		19 de agosto de 2025; 11am
Fecha límite para enviar respuestas		22 de agosto de 2025; 3pm
Fecha límite para entrega de ofertas	En o antes de:	28 de agosto de 2025; 9:00am
Acto de Apertura		28 de agosto de 2025; 9:30am
Período de evaluación de ofertas	De:	28 de agosto de 2025
	Hasta:	19 de septiembre de 2025
Aviso de adjudicación*		23 de septiembre de 2025

FECHA, HORA DE REUNIÓN PRESUBASTA: La reunión presubasta se llevará a cabo el **14 de agosto de 2025, a las 9:30 AM; presencialmente** en las oficinas centrales de la AMA, en 37 Ave. De Diego, Urb. San Francisco, Río Piedras, San Juan, Puerto Rico 00927, y simultáneamente de manera virtual a través de **Microsoft Teams**, ID de reunión: **239 618 389 900 5** Código de acceso: **9DN7K8Ns** Puede acceder a: https://teams.microsoft.com/l/meetup-join/19%3ameeting_NDIhYTJIY2MtYTA4OC00OWQxLTkwODctNjExYml5ZmUwZWVj%40thread.v2/0?context=%7b%22tid%22%3a%225696b431-1a4a-4cb0-8385-b20255c0e614%22%2c%22oid%22%3a%22a6bdba9c-2f21-4649-a489-8b8dff471a12%22%7d

- **La participación en esta reunión no es compulsoria.**
- FECHA, HORA DE INSPECCIÓN DEL PROYECTO: La visita de inspección del proyecto se llevará a cabo el **14 de agosto de 2025; 10:00am**

Iniciales del Proponente: _____

presencialmente en las oficinas centrales de la AMA, en 37 Ave. De Diego, Urb. San Francisco, Río Piedras, San Juan, Puerto Rico 00927. Debido a la complejidad del proyecto, se recomienda la comparecencia a esta inspección, ya que personal de la AMA estará disponible para contestar preguntas. Se solicita ser puntuales al horario del recorrido para que no pierda detalles de lo explicado.

- **FECHA, HORA Y MODO DE ENTREGAR LA OFERTA:** Las ofertas deberán ser presentadas en o antes de las **28 de agosto de 2025; 9:00am** en dos maneras, (1) presencialmente en la Oficina de Compras de las oficinas centrales de la AMA, en 37 Ave. De Diego, Urb. San Francisco, Río Piedras, San Juan, Puerto Rico 00927 (entregando original y dos copias en sobres sellados), y (2) electrónicamente a la siguiente dirección de correo electrónico: mayala@ama.pr.gov y/o dmarti@ama.pr.gov. Todas las ofertas deben incluirse en el formulario AMA-01, titulado "Hoja de Ofertas".

FECHA Y HORA DEL ACTO DE APERTURA: El acto de Apertura se llevará a cabo el **28 de agosto de 2025; 9:30am**. Toda persona interesada en comparecer al acto de apertura deberá presentarse en la Recepción en las oficinas centrales de la AMA, Ave. De Diego, Núm. 37, Urb. San Francisco, Río Piedras, San Juan, Puerto Rico 00927. También podrá asistir de manera virtual a través de **Microsoft Teams**, ID de reunión: **216 495 776 681** Código de acceso **6jW7iW9c**
Puede acceder a: https://teams.microsoft.com/l/meetup-join/19%3ameeting_MjBiYjg3YzctNzNIYi00ZDA0LTg5NGMtZWlzMGRmZjhiMjI1%40thread.v2/0?context=%7b%22id%22%3a%225696b431-1a4a-4cb0-8385-b20255c0e614%22%2c%22oid%22%3a%22a6bdba9c-2f21-4649-a489-8b8dff471a12%22%7d

La Apertura tiene como propósito el que las partes interesadas puedan comprobar que las ofertas se recibieron, si cumplieron con los requisitos, así como conocer la cuantía de cada oferta. Toda persona que asista tendrá que cumplir con las normas de conducta que establezca la Sra. Marielys Ayala Serrano, Agente Comprador y/o la Sra. Diana Marti Novoa, Directora de Compras, a tales efectos.

Iniciales del Proponente: _____

D. ALCANCE DEL TRABAJO (SCOPE OF WORK)

DESCRIPCIÓN GENERAL DE LOS TRABAJOS NECESARIOS:

- 1- Eliminación de una isleta frontal existente en la entrada y salida de las guaguas, brindando así salida en ambas direcciones a la Ave. Jose de Diego.
- 2- Se agrandará el portón de entrada de los autos en general en la entrada principal del solar para crear un 2do carril de entrada al interior de forma que puedan acceder visitantes y empleados, independientes sin necesidad de crear congestión vehicular en la Ave. Jose de Diego.
- 3- Se aumenta la distancia del portón de acceso con respecto a la colindancia de la calle.
- 4- Se construirá una nueva acera interior que permitirá la entrada de visitas peatonales de forma segura.
- 5- Se mejorará el marcado de pintura de transito peatonal mejorando la seguridad de este al desplazarlo mas hacia la entrada, alejándolo más de la vía principal de la Ave. Jose De Diego.
- 6- Se reconstruirá la rampa de entrada a la acera existente considerando los requerimientos actuales.
- 7- Geo ha preparado planos y detalles mostrando la condición actual de la entrada y la condición propuesta.
- 8- Geo ha preparado un estimado de los trabajos a realizarse.

	DESCRIPCIÓN	Qty	Unit
A.	Exterior Area		
	1- Demolitions & Removals		
	a- Panthers Curb	190	Lf
	b- Planters, Soils & Palms	1161	Sf
	2- Concrete Work		
	a- New Planter Curb	50	Lf
	b- Outside Curb	3	Cy
	3- New Asphalt Pavement		
	a- Black Base 4"	800	Sf
	b- Topping 2"	800	Sf
	4- Sub-Grade		
	a- For Asphalt & Walk	950	Sf
	5- New Planter		
	a- Top Soil	2	Cy
	b- Sodding	200	Sf
	Sub-Total "A"		

Iniciales del Proponente: _____

B.	New Entrance Lane		
	1- Demolition & Disp.		
	a- Remove Asphalt Pav. & Walk	2400	Sf
	2- Concrete Work		
	a- Curb & Sidewalk	1	Ls
	b- New Walk (San Fco.)	1	Ls
	3- New Asphalt Pavement		
	a- Black Base 4"	1854	Sf
	b- Topping 2"	1854	Sf
	Sub-Total "B"		
C.	Ornamental Metals		
	1- Lane Entrance Gate	1	Ea
	2- Pedestrian Gate	1	Ea
	3- Fixed Panel 1	1	Ea
	4- Fixed Panel 2	1	Ea
	5- Steel Poles 4"	2	Ea
	Sub-Total "C"		
D.	Painting		
	1- Lane Division	1	Ls
	2- Exterior Planting	1	Ls
	3- Pedestrian Mark	1	Ls
	4- Gates & Panels	1	Ls
	5- Curbs	1	Ls
	6- Hand. Ramp	1	Ls
	Sub -Total "D"		
E.	Others		
	1- Warning Mat	1	Ea
	2- Speed Bumps	9	Ea
	Sub-Total "E"		

El proyecto será en un periodo máximo de **CUARENTA Y CINCO 45 DÍAS calendarios los cuales se dividen en treinta (30) de construcción y quince (15) de cierre** a partir de la firma de contrato u orden de comienzo emitida por la Autoridad Metropolitana de Autobuses.

Los licitadores examinarán las especificaciones con los documentos relacionados, lugar del proyecto y evaluarán todas las condiciones que rodean la construcción del proyecto propuesto, incluyendo la disponibilidad de materiales y mano de obra. El licitador agraciado proporcionará toda la mano

Iniciales del Proponente: _____

de obra, materiales y suministros, y realizará el proyecto de acuerdo con los términos contractuales dentro del tiempo establecido en ellos. Las propuestas deben cubrir todos los gastos a incurrir en la realización del trabajo requerido.

E. CONDICIONES GENERALES

1. TRANSPORTACIÓN, ACARREO Y ENTREGA: Los precios licitados incluyen los gastos de transportación y acarreo hasta la entrega final de los bienes en la AMA, libre de cargo adicional para el gobierno.
2. PRECIOS COTIZADOS: Toda persona cotizará basándose en precios justos por sus bienes o servicios, considerando los aspectos técnicos. Los precios ofrecidos por el licitador se mantendrán fijos durante la vigencia del contrato que se otorgue, y **no estarán sujetos a cambios por aumento en el mercado o de cualquier otra índole**, ya sean previsibles o no.
3. AJUSTE DE PRECIO POR PRONTO PAGO: No se aceptan descuentos por pronto pago en esta Subasta Informal; se aceptarán descuentos por pago rápido.
4. MODO DE FACTURAR: El suplidor entregará las facturas en no más de diez (10) días luego de terminado el período o fecha de entrega del bien o servicio. Toda factura para el cobro de bienes o servicios que se presente ante las agencias deberá contener la siguiente certificación:

“Bajo pena de nulidad absoluta certifico que ningún servidor público del gobierno; Entiéndase, Entidad Gubernamental; es parte o tiene algún interés en las ganancias o beneficios producto del contrato objeto de esta factura y de ser parte o tener interés en las ganancias o beneficios productos del contrato, ha mediado una dispensa previa. La única consideración para suministrar los bienes o servicios objeto del contrato ha sido el pago acordado con el representante autorizado de la (agencia que emite la orden de compras). El importe de esta factura es justo y correcto, los trabajos han sido realizados, los productos han sido entregados y los servicios han sido prestados y no se ha recibido pago por ellos.”

F. CONDICIONES ESPECIALES

1. FIANZAS Y GARANTÍAS

- a) FIANZA DE LICITACIÓN (“Bid Bond”): La fianza de licitación será un respaldo provisional que prestará el licitador o proponente con el propósito de asegurar que habrá de sostener su oferta durante todo el procedimiento de la Subasta Informal. La fianza tiene que ser en original, y al ser presentada mediante compañía de seguro, en

Iniciales del Proponente: _____

cheque certificado o giro postal deberá ser a favor de la Autoridad Metropolitana de Autobuses. La fianza de licitación se prestará en el mismo momento de presentar la oferta o anualmente mediante una suma global. Para esta Subasta Informal se requiere una fianza de licitación de un **cinco por ciento (5%)** del total de la oferta.

- b) FIANZA DE EJECUCIÓN ("Performance Bond"): Garantía monetaria que se requiere a un licitador o proponente para asegurar el cumplimiento de una obligación contraída. Esta fianza la prestará(n) solamente el(los) licitador(es) agraciado(s) con la buena pro de la Subasta Informal. La fianza garantizará que el suplidor cumpla con su obligación de acuerdo con los términos y condiciones de su oferta. De no cumplir y tener que acudir al próximo suplidor, la diferencia en precio será cubierta por esta fianza. La fianza tiene que ser en original, y al ser presentada mediante compañía de seguro, en cheque certificado o giro postal será a favor de la Autoridad Metropolitana de Autobuses. Para esta Subasta Informal se requiere una fianza de ejecución de un **cuarenta por ciento (40%)** del total de la oferta.
2. GARANTÍA: Todas las reparaciones, incluyendo equipos instalados, deberán tener una garantía mínima de 1 año o lo que establezca DACO, lo que sea mayor. El contratista deberá asegurar que todo trabajo de electricidad y/o líneas refrigerantes, equipos, accesorios eléctricos, paneles, interruptores, breakers y/o equipos, que son parte del proyecto de rehabilitación, funcionen adecuadamente, una vez concluya la obra. (según aplique)
3. TÉRMINO DE ENTREGA: Las entregas se efectuarán dentro del término solicitado por la AMA, o en su defecto, por el que haya dispuesto el licitador en la oferta, contando desde el recibo de la orden de compra o firma de contrato. El tiempo más corto para proveer el servicio, será un factor determinante para decidir la adjudicación a favor de un postor.
4. ALMACENAJE: Se requiere almacenaje físico para esta Subasta Informal.
5. MUESTRAS: No son requeridas en esta Subasta Informal.
6. CANTIDADES PARA COMPRAR: La orden de compra emitida, o contrato, indicará las servicios y bienes a ser adquiridos.
7. INSPECCIÓN DE LOS BIENES Y DESEMPEÑO DEL SERVICIO: funcionario asignado de GEO Engineers, P.S.C estará a cargo de la inspección y aceptación del proyecto.

Iniciales del Proponente: _____

G. CRITERIOS DE EVALUACIÓN

Por tratarse de una Subasta Informal, los criterios de evaluación serán los de licitador responsable, con licitación (oferta) responsiva, al precio más bajo y/o cualquier otro criterio pertinente que represente el mejor valor para la AMA y el Gobierno de Puerto Rico.

La División de Compras realizará determinaciones de hecho relacionadas a la solvencia moral y financiera, y así poder adjudicar si el licitador es uno responsable. La certificación del RUL puede ser un mecanismo para realizar dicha determinación. Adicionalmente, se podrán solicitar certificaciones de que el licitador, ni sus accionistas u oficiales en caso de ser personas jurídicas, han cometido fraude, abuso o malversación de fondos públicos, así como estados financieros. No cumplir con estos requisitos puede resultar en la descalificación del licitador.

La responsividad de la oferta se determinará cotejando que cada licitador cumple con todos y cada uno de los requisitos (de forma, de contenido, de documentos, de firma, etc.) dispuestos en estas instrucciones. No cumplir con los requisitos de especificaciones, términos y condiciones, fianzas y garantías, puede resultar en descalificación de la oferta.

Criterios de Evaluación:

1. La exactitud con la cual el licitador ha cumplido con las especificaciones, los términos y las condiciones del pliego de la Subasta Informal.
2. La calidad de los bienes, obras y servicios no profesionales ofrecidos y cómo éstos cumplen con las especificaciones y satisfacen las necesidades establecidas.
3. Si el precio es competitivo y comparable con el prevaleciente en el mercado.
4. La habilidad reconocida del licitador para llevar a cabo trabajos de la naturaleza bajo consideración en obras y servicios no profesionales.

Iniciales del Proponente: _____

5. La responsabilidad económica del licitador y las experiencias de la AMA con el cumplimiento de contratos anteriores de naturaleza igual o parecida.
6. El término de entrega de los servicios o bienes más próximo.
7. La capacidad económica y financiera, así como la trayectoria y experiencia previa del licitador para proveer estos servicios o bienes y cumplir con los términos de entrega y garantías de la unidad.
8. El periodo específico o los términos aplicables a cada garantía, sus limitaciones y condiciones, los pasos requeridos para reclamar la garantía, qué entidad proveerá el servicio de reemplazo, subsanación, corrección o reparación del bien o el servicio.
9. Cualquier otro criterio pertinente que represente el mejor valor para el Gobierno de Puerto Rico.

H. IMPUGNACIÓN A LA INVITACIÓN O A ESTAS INSTRUCCIONES DE SUBASTA INFORMAL

Toda impugnación a la invitación de Subasta Informal deberá presentarse personalmente ante la División de Compras, dentro de los tres (3) días subsiguientes a la fecha de haberse publicado la invitación en la página cibernética de la AMA o el Registro Único de Subastas (RUS). Luego de dicho término, toda impugnación será rechazada de plano.

Toda impugnación al pliego de la Subasta Informal deberá presentarse personalmente ante la directora de Compras, dentro de los tres (3) días subsiguientes a la fecha de la AMA haber hecho disponibles los pliegos de esta solicitud de Subasta Informal. Luego de dicho término, toda impugnación será rechazada de plano.

I. DOCUMENTACIÓN REQUERIDA

1. CONTENIDO DE LA OFERTA: Todo licitador entregará en original y dos copias, en sobres sellados, su oferta personalmente en la sede de la AMA (37 Ave. De Diego, Urb. San Francisco, Río Piedras, Puerto Rico 00927), y enviará a través de la siguiente dirección de correo electrónico: mayala@ama.pr.gov y/o dmarti@ama.pr.gov, (ambas formas). En el

Iniciales del Proponente: _____

ASUNTO ("SUBJECT") del correo electrónico que contenga la oferta, debe aparecer la siguiente información: **Número de Subasta Informal, nombre del licitador y compañía que representa.** además, deberá adjuntar los siguientes documentos:

- a) Pliegos debidamente firmados y con las páginas inicialadas. Aunque algunas páginas no proveen un espacio determinado para que el licitador escriba sus iniciales, el licitador tiene que escribir sus iniciales en cada una de las páginas del pliego (instrucciones, anejos, etc.)
- b) Fianza de Licitación ("Bid Bond") debidamente endosada (de ser requerida)
- c) Hoja de Ofertas en Formato "PDF"
- d) Literatura de cada producto ofertado identificado con el número de renglón, según aplique
- e) Listado de clientes y proyectos anteriores
- f) Licencias profesionales y/o cualificaciones vigentes
- g) Enmiendas (de ser aplicable)
- h) Certificación del Registro Único de Licitadores de la Administración de Servicios Generales (ASG)
- i) Certificación del registro en la plataforma SAM (Federal Transit Administration) <https://www.sam.gov/portal/SAM>

Entregar original y dos copias de todo (pliego, anejos y propuesta).

Toda oferta recibida mediante correo electrónico que no contenga en el ASUNTO ("SUBJECT") la información antes señalada, no será considerada. Bajo esta circunstancia, la División de Compras no será responsable si el remitente pierde su oportunidad de presentar la oferta a tiempo, como tampoco podrá requerir que se tome conocimiento de su oferta o imputar que la oferta haya sido divulgada o abierta antes de tiempo. El licitador **podrá ser descalificado** por no adjuntar a su oferta los documentos arriba mencionados.

La oferta deberá contener la **dirección física y postal** de la oficina principal del negocio, así como también, el nombre y la dirección del agente residente de la corporación, cuando sea el caso. Igualmente, todo

Iniciales del Proponente: _____

licitador habrá de incluir su correo electrónico; las Notificaciones de Adjudicación podrán ser enviadas a dicha dirección electrónica.

El licitador tendrá que indicar en la oferta la marca y modelo del producto, así como incluir literatura técnica del manufacturero, la cual permita verificar que lo cotizado cumple con las especificaciones requeridas. Dicha literatura u hojas de especificaciones tienen que indicar claramente la partida de la Subasta Informal a la que se refiere.

La oferta deberá estar firmada con bolígrafo de tinta color azul en el espacio provisto para ello, por la persona registrada en el RUL o su representante autorizado. Se autoriza la firma digital del licitador en la oferta presentada. De igual forma, se autoriza la presentación de documentos digitalizados. No cumplir con estos requisitos constituirá el rechazo de la oferta.

2. CERTIFICACIONES ADICIONALES: El licitador incluirá junto con su oferta en el formulario provisto, todas las certificaciones requeridas, además incluirá a éste, las certificaciones especiales solicitadas en este pliego. Se advierte que, entre otros, todo licitador deberá cumplir con lo siguiente:

- a) CÓDIGO DE ÉTICA PARA CONTRATISTAS: Todo licitador deberá cumplir con lo establecido en la Ley Núm. 2 del 4 de julio de 2018, según enmendada, conocida como Código Anti-Corrupción para el Nuevo Puerto Rico, el cual exige a todas las entidades gubernamentales funcionar bajo los estándares de integridad, eficiencia, probidad y transparencia. Este Código de Ética enfatiza la política pública del Gobierno de Puerto Rico en el uso adecuado y eficiente de los recursos públicos y la erradicación de la corrupción gubernamental.

Dicho Código requiere que todos los contratistas, proveedores de bienes o servicios y los solicitantes de incentivos se abstengan de llevar a cabo o participar en conducta que, directa o indirectamente, implique que servidores públicos infrinjan las disposiciones de la Ley de Ética Gubernamental. La aceptación de las normas establecidas en este Código de Ética es una condición esencial e indispensable para que los licitadores o sus representantes puedan efectuar transacciones o establezcan convenios con las agencias ejecutivas.

Toda persona está obligada a denunciar aquellos actos que estén en violación del referido Código que constituyan actos de corrupción, o se configuren en delitos constitutivos de fraude, soborno,

Iniciales del Proponente: _____

- malversación, o apropiación ilegal de fondos, y de los que tenga propio y personal conocimiento, que atañen a un contrato, negocio o transacción entre el gobierno y un contratista, proveedor de bienes o servicios. Los denunciantes estarán protegidos al amparo de la Ley Núm. 2-2018.
- b) CLÁUSULA ANTI-DISCRIMEN: La AMA no discrimina por razón de raza, color, género, origen o condición social, ideas políticas o religiosas, edad, nacionalidad, por ser víctima o ser percibida como víctima de violencia doméstica, agresión sexual o acecho, condición de veterano, identidad u orientación sexual, real o percibida, impedimento físico, mental o sensorial. Cualquier proveedor o contratista de la AMA debe certificar que su entidad no discrimina por razón de raza, color, género, origen o condición social, ideas políticas o religiosas, edad, nacionalidad, por ser víctima o ser percibida como víctima de violencia doméstica, agresión sexual o acecho, servicio militar o condición de veterano, identidad u orientación sexual, real o percibida, impedimento físico, mental o sensorial.
- c) CERTIFICACIONES GUBERNAMENTALES: El licitador agraciado, es responsable por tener al día sus certificaciones de no deuda con entidades gubernamentales tales como el Departamento de Hacienda, el Centro de Recaudaciones de Impuestos Municipales (CRIM), la Administración para el Sustento de Menores (ASUME) y cualquier otra que le sea requerida para poder hacer negocios con el Gobierno de Puerto Rico.
- d) En caso de que el licitador subcontrate, deberá proveer certificación de que la compañía subcontratada tenga 4% DBE.

J. ANEJOS

En el caso de que fondos federales sufraguen la totalidad o parte de la adquisición realizada bajo esta Subasta Informal, en los Anejos se encontrarán instrucciones adicionales, requeridas por las autoridades federales, con las que también se tiene que cumplir. Otros anejos provistos son parte de los requisitos mandatorios tales como: Hoja de Oferta; Certificación Ley 2-2018, según enmendada; Certificación de No Deudas con Instrumentalidades Gubernamentales; etc.

K. ADVERTENCIAS

Iniciales del Proponente: _____

- a) La AMA se reserva el derecho de cancelar parcial o total la Subasta Informal, independientemente de la fase en que se encuentre, siempre que sea antes de formalizar el contrato, o de haber emitido una orden de compra, cuando ello sirva los mejores intereses del Gobierno de Puerto Rico, según los términos del Reglamento Núm. I-23-01 (9415).
- b) La AMA se reserva el derecho de hacer modificaciones en las instrucciones, términos, condiciones y especificaciones de la Subasta Informal cinco (5) días laborables antes de la celebración del acto de Apertura de las ofertas cuando la enmienda implique cambios o solicitudes adicionales que se deben incluir en la oferta, tres (3) días laborales antes del acto de Apertura cuando la enmienda no afecte la presentación de las propuestas u ofertas. De ser así se les notificará por escrito a todos los licitadores. La AMA podrá enmendar cualquier invitación y/o pliego de la Subasta Informal, cuando ello sirva a los mejores intereses del Gobierno de Puerto Rico, según los términos dispuestos en el Reglamento Núm. I-23-01 (9415), supra.
- c) Proveer cualquier tipo de información o documentación falsa o fraudulenta como parte de la oferta presentada para esta Subasta Informal, será causa suficiente para descalificar o rechazar la oferta de cualquier licitador, así como para cancelar o resolver cualquier orden de compra o contrato otorgado en virtud de esta.
- d) La AMA no aceptará una fianza por una cantidad menor o a nombre de otra entidad que no sea según el pliego de Subasta Informal. El incumplimiento con este requisito conllevará el rechazo de la oferta.
- e) Solo se aceptará una oferta por licitador. Empresas, naturales o jurídicas, que tengan socios, miembros o accionistas comunes, serán consideradas como *alter ego* una de las otras, por lo que se considerará un conflicto de intereses que activará la descalificación de los licitadores con intereses en común. Se prohíben prácticas de competencia desleal tal como el contubernio.
- f) Toda persona que en su vínculo con las agencias y demás instrumentalidades del gobierno de Puerto Rico participe de licitaciones en subastas, presente oferta, interese perfeccionar contratos con éstas, tendrá la obligación de divulgar toda la información necesaria para que las agencias puedan evaluar detalladamente las transacciones y efectuar determinaciones correctas e informadas.

Iniciales del Proponente: _____

- g) La AMA no se responsabiliza por los costos incurridos en la preparación de ofertas para esta Subasta Informal.
- h) La mera participación en esta solicitud de Subasta Informal no ofrece garantías de que se le ha de adjudicar un contrato u orden de compra. La notificación de adjudicación de la presente Subasta Informal no constituirá el acuerdo formal entre las partes. Será necesario que se suscriba el contrato correspondiente, o que la AMA emita una orden de compra por la persona autorizada.
- i) Toda oferta y/o propuesta presentada deberá incluir el detalle del precio ofertado; precio de unidad del bien o servicio (por cada partida), costos de transportación, entrega, ensamblaje, garantía, entrenamiento, mantenimiento o servicios, reemplazos, entre otros.
- j) Una vez se hayan sometido las ofertas, éstas y sus anejos, pasarán a ser propiedad de la AMA y no será devuelta.
- k) Tan pronto se adjudique esta Subasta Informal, el expediente será público, incluyendo las ofertas y sus anejos. Si un licitador no desea que se publique un secreto de negocio, o información protegida, deberá etiquetar dicha información como "Secreto de Negocio e Información Protegida".
- l) Los documentos o anejos incluidos en este pliego, deben ser completados por los licitadores y tienen que ser sometidos con las ofertas. Los licitadores son responsables de atender cualquier enmienda que surja en el transcurso de esta Subasta Informal.
- m) Los representantes exclusivos de marcas o servicios no profesionales deberán mencionarlo en la oferta y someter certificación del manufacturero a tales efectos.
- n) En el caso de que las ofertas se sometan en sobres abiertos, deteriorados o sin identificación, la División de Compras de la AMA habrá de realizar esfuerzos razonables con el licitador para que éste cumpla con el requisito de someterla en un sobre sellado, debidamente identificado.
- o) Es responsabilidad de cada licitador que entregue oferta, cerciorarse que la misma ha sido debidamente registrada.

Iniciales del Proponente: _____

- p) Los licitadores deberán cumplir con los requisitos de reglamentación vigente y de las normas aplicables de ingeniería y seguridad en aquellos casos en que se requiere la instalación de equipos.
- q) La División de Compras podrá utilizar la negociación individual respecto a los términos, condiciones, calidad, solución o precios, o combinación de factores, para obtener lo más ventajoso para la Autoridad. El precio no será necesariamente el factor de mayor peso de adjudicación. Puede existir la posibilidad de que la adjudicación pueda hacerse sin negociación.

L. POLÍTICAS PREFERENCIALES

No es aplicable ninguna política preferencial cuando los bienes o servicios se sufraguen con fondos de la FTA.

M. ALTERACIONES

Toda oferta deberá presentarse en forma legible, clara, completa y precisa. Ofertas múltiples, variadas o ambiguas no serán consideradas. Todo borrón, tachadura, anotación o cualquier corrección en los pliegos tienen que estar refrendados **por la persona que firme la oferta** e incluya en cada página sus iniciales. De lo contrario quedará invalidada la oferta para la partida o las partidas correspondientes.

El uso de tinta de borrar para correcciones se considerará como una tachadura y para poder salvar la misma, deberá tener las iniciales de la persona que firme la oferta para ser considerado. El uso de papel con pega ("correction paper") para escribirle encima es inaceptable.

N. CORRECCIONES A OFERTAS

Las correcciones o modificaciones a las solicitudes de Subasta Informal están sujetas a las disposiciones del Reglamento I-23-01 (9415), Secciones 4.3.12 y 4.3.13. Nótese que no se aceptan modificaciones luego de fecha y hora límite para someter las ofertas, dispuesto en la Secc. C-1 de estas instrucciones; de hacerlo, serán rechazadas.

O. COMUNICACIONES PROHIBIDAS

Las comunicaciones verbales entre funcionarios (o empleados) de la AMA y potenciales licitadores, con respecto a esta solicitud de Subasta

Iniciales del Proponente: _____

Informal, están prohibidas durante los procesos de presentación y selección de ofertas. El incumplimiento de este requisito puede resultar en el rechazo de las ofertas presentadas.

P. CÓMO SOMETER PREGUNTAS

Los licitadores que deseen solicitar alguna clarificación o someter preguntas sobre el proceso, deben hacerlo en o antes del día dispuesto en la Sección C-1 de estas instrucciones. Dichas preguntas se enviarán por correo electrónico a mayala@ama.pr.gov y/o dmarti@ama.pr.gov. La AMA debe responder dichas preguntas en o antes de la fecha dispuesta en la misma sección antes referida. La AMA someterá a todos los participantes una relación de todas las preguntas radicadas, quien la radicó, y la respectiva contestación en el día dispuesto en la Sección C-1.

Q. LICITADORES REGISTRADOS

A todo licitador que esté registrado en el RUL, que haya presentado oferta para una Subasta Informal y que luego del Acto de Apertura no se encuentre elegible, se le concederá un término improrrogable de cinco (5) días calendario, contados a partir del Acto de Apertura, para que someta la información o los documentos correspondientes en el RUL. Durante dicho periodo de cinco (5) días, no se realizará adjudicación alguna de la Subasta Informal. Será responsabilidad de la División de Compras comunicarse con el licitador para que éste actualice sus constancias en el RUL en el término provisto.

El licitador deberá someter todos los documentos solicitados y cumplir con todos los requisitos, términos y condiciones establecidos en el pliego de Subasta Informal al momento de entregar su oferta, lo cual siempre será antes de la apertura de la Subasta Informal. No se aceptará ningún documento por parte del licitador con posterioridad al acto de apertura, a excepción del certificado de elegibilidad del RUL, que estará sujeto a que se presente dentro del término de cinco (5) días calendario antes referido.

R. LICITADORES NO REGISTRADOS

Cuando un licitador que no esté registrado en el RUL comparece a un proceso de solicitud de Subasta Informal y presenta una cotización u oferta, la División de Compras no deberá rechazar la misma por el hecho de que dicho licitador no esté en el RUL y le dará cinco (5) días calendario,

Iniciales del Proponente: _____

contados a partir del acto de apertura para que someta todos los documentos requeridos ante el RUL.

S. OFERTAS ADMISIBLES E INADMISIBLES

- a. UNIDAD DE COTIZACIÓN DE PRECIO: La oferta básica deberá hacerse en dólares y centavos. No serán consideradas ofertas que se expresen en términos de por ciento, en referencia a posibles precios indeterminados, cantidad de dinero o por cientos en exceso de ofertas más bajas.
- b. Para esta Subasta Informal, las ofertas admisibles serán todo o nada.
- c. NINGUNA OFERTA: Si el licitador no tiene interés en licitar en dicha Subasta Informal, deberá devolver el Anejo I (Oferta del Licitador) de la Invitación a Subasta Informal, con una anotación explicando las razones que tiene para no hacer oferta, así como notificar si tiene o no interés en ser invitado para futuras Subasta Informal en esos renglones. La falta de someter oferta sin notificación podrá ser informada al RUL.
- d. OFERTAS NO RESPONSIVAS O INACEPTABLES: Al hacer su oferta, el licitador se limitará a ofrecer lo que se le solicita dentro de las especificaciones enmarcadas y las condiciones fijadas. Las especificaciones establecen requisitos mínimos, cualquier oferta que sobrepase las especificaciones solicitadas, podrá ser aceptada siempre y cuando no altere sustancialmente lo solicitado de forma tal que pueda interpretarse como competencia desleal.
- e. No serán consideradas ofertas que hagan de la misma una **ambigua**, en cuanto a su significado, **incompleta** o **indefinida**. También, serán rechazadas ofertas que **alteren, incumplan, varíen o condicionen** los términos, condiciones y especificaciones establecidos por la AMA.
- f. OFERTAS INCOMPLETAS: Ofertas en las que no se completen todos los blancos serán rechazadas. Si un licitador no tiene información que suplir en un blanco deberá anotar "N/A" - (no aplica) o "N/B" – (no bid).
- g. VARIAS OFERTAS POR UN MISMO LICITADOR: Si un licitador presenta varias ofertas para una Subasta Informal, ya sea a nombre propio o seudónimos, de alguna de sus subsidiarias o sucursales, de alguno o varios de sus socios, agentes u oficiales, todas serán **rechazadas** y se le

Iniciales del Proponente: _____

podrán imponer las penalidades que establece el Reglamento I-23-01 (9415), *supra*.

- h. OFERTA LIMITADA: Todo licitador que entienda que solamente puede sostener sus precios por un período de tiempo determinado, así lo hará constar en su oferta especificando el término.

T. RETIRO DE OFERTA

El retiro de una oferta se hará mediante solicitud escrita, dirigida a la División de Compras de la AMA, antes del acto de Apertura. No se puede volver a presentar una sustitutiva de la que se retiró ni se puede retirar ofertas luego de que se haya realizado el acto de Apertura.

U. RECHAZO GLOBAL

La División de Compras podrá rechazar todas las ofertas recibidas si éstas no cumplen con las instrucciones, términos, condiciones y especificaciones, o si los precios fueran irrazonables, o si existe colusión entre los licitadores comparecientes, o si los mejores intereses económicos del Gobierno de Puerto Rico pudieran verse afectados.

V. CANCELACIÓN DE CONTRATO POR CAUSA: NEGATIVA A ENTREGAR

Si el licitador se niega a entregar lo ordenado, se podrá cancelar la orden de compra y emitirla a otro licitador. Además, la AMA aplicará las sanciones correspondientes, según el Reglamento Núm. I-23-01 (9415), así como en y las acordadas en el contrato u orden de compra.

W. CANCELACIÓN DE CONTRATO POR CONVENIENCIA

La AMA podrá dar por terminado cualquier contrato cuando lo estime conveniente, notificando al menos treinta (30) días antes dicha determinación.

X. SOLVENCIA MORAL

La AMA no adjudicará Subasta Informal u otorgará contrato alguno para la realización de servicios o la venta o entrega de bienes, a persona natural

Iniciales del Proponente: _____

o jurídica que haya sido convicta o se haya declarado culpable en el foro estatal o federal, en cualquier otra jurisdicción de los Estados Unidos de América o en cualquier otro país, de aquellos delitos constitutivos de fraude, malversación o apropiación ilegal de fondos públicos enumerados en la Ley Núm. 2-2018, según enmendada. Esta prohibición de adjudicar Subastas Informales u otorgar contratos, se extiende a aquellas personas jurídicas cuyos presidentes, vicepresidentes, director, director ejecutivo, o miembro de su Junta de Oficiales o Junta de Directores, o persona que desempeñe funciones equivalentes, haya sido convicto o haya sido declarado culpable en el foro estatal o federal, en cualquier otra jurisdicción de los Estados Unidos de América o en cualquier otro país, de aquellos delitos constitutivos de fraude, malversación o apropiación ilegal de fondos públicos, según enumerados en el Artículo 3 de la referida ley.

La prohibición para la contratación, subcontratación o adjudicación de una Subasta Informal contenida en la Ley 458, *supra*, tendrá una duración de veinte (20) años, a partir de la convicción correspondiente en casos por delito grave, y una duración de ocho (8) años en casos por delito menos grave.

La convicción o culpabilidad por cualquiera de los delitos enumerados en el Artículo 3 de la ley conllevará, además de cualesquiera otras penalidades, la rescisión automática de todos los contratos vigentes a esa fecha entre la persona convicta o culpable y la AMA. Además de la rescisión del contrato, la AMA tendrá derecho a exigir la devolución de las prestaciones que hubiese efectuado con relación al contrato o contratos afectados directamente por la comisión del delito.

Iniciales del Proponente: _____

Y. INCUMPLIMIENTO

Si el licitador incumpliera con cualquiera de los términos y condiciones de esta Subasta Informal una vez emitida la orden de compra o firmado el contrato, la AMA cancelará el mismo inmediatamente, ejecutará la Fianza de Ejecución ("Performance Bond") y podrá solicitar que se excluya al suplidor del RUL, por un término no menor de un (1) año y no mayor de tres (3) años, conforme según las disposiciones aplicables. Además, la AMA se reserva el derecho de aplicar cualesquiera otras sanciones, según provistas en el Reglamento Núm. 9352, *supra* y las acordadas en el contrato u orden de compra.

Las medidas a tomarse en caso de incumplimiento serán impuestas solamente por la AMA, previa investigación de los hechos, mediando comunicación y dando al licitador la oportunidad de ser escuchado.

Z. PENALIDAD POR ENTREGA TARDÍA O INCUMPLIMIENTO

Todo licitador que incurra en incumplimiento de entrega de mercancía o servicios, se le aplicará un cargo según dispuesto en el Reglamento I-23-01 (9415), Secc. 4.3.20, sobre importe de la orden de compra emitida, o contrato, por cada día que transcurra de atraso, sin que constituya una renuncia a cualquier otro procedimiento que en derecho proceda. Se entiende que ha habido atraso cuando el suplidor no cumpla con la fecha de entrega convenida o no cumpla con la fecha de comienzo de los servicios.

AA. RECONSIDERACIÓN Y REVISIÓN JUDICIAL

Una vez se emita una Notificación de Adjudicación, cualquier persona que haya participado en el proceso de esta Subasta Informal, y haya recibido una determinación adversa, tendrá oportunidad de solicitar una reconsideración o eventual revisión judicial, siguiendo las disposiciones legales aplicables. Según el Art. 4.2 de la Ley Núm. 38-2017, según enmendada, conocida como Ley de Procedimiento Administrativo Uniforme del Gobierno de Puerto Rico, "[l]a mera presentación de una solicitud de revisión al amparo de esta Sección no tendrá el efecto de paralizar la adjudicación de la Subasta Informal impugnada".

Fin de las Instrucciones

*****Pase a los Anejos*****

Iniciales del Proponente: _____



PROJECT NO. RFP

IMPROVEMENTS TO PRINCIPAL ENTRANCES

Capital Projects:

Permanent Repairs to PRMBA Facilities &
Equipment: New Projects

(RFQ/P: 2024-01)

ÍNDICE

I. CONDICIONES GENERALES:

- A. Descripción General del Proyecto
- B. Fondos
- C. Tiempo de Construcción

II. ESPECIFICACIONES GENERALES

- A. Definiciones
- B. Examen del Sitio
- C. Cumplimiento de Leyes, Arbitrios y Ordenanzas Locales
- D. Deberes del Contratista
- E. Mano de obra
- F. Materiales
- G. Libertad de Supervisión
- H. Seguros, vallas y seguridad pública
- I. Limpieza y organización
- J. Pagos
- K. Garantías
- L. Responsabilidad por daños y reclamaciones
- M. Permisos

III. ESPECIFICACIONES TECNICAS

- A. Especificaciones Materiales y/o Procedimientos

I. CONDICIONES GENERALES

1 Descripción General del Proyecto:

Los trabajos del contrato; incluirán toda la mano de obra, materiales necesarios para la ejecución de las labores de: equipos, grúa, herramientas y el pago correspondiente de arbitrios de construcción, incluyendo patente y seguros; para los trabajos descritos a continuación:

TRABAJOS DE CONSTRUCCION

B. Especificaciones de Equipos: Se incluyen especificaciones de equipos a ser instalados deben ser igual o similar.

C. Fondos: Fondos Federales

D. Tiempo de Construcción:

Se concede un periodo máximo de **CUARENTA Y CINCO (45) DÍAS calendarios los cuales se dividen en treinta (30) de construcción y quince (15) de cierre** a partir de la firma de contrato u Orden de Comienzo emitida el dueño representado por su Directora o en su efecto según se establezca en el contrato.

1. Daños líquidos - El Contratista agraciado pagará al Dueño, la cantidad de **CIEN (\$100.00) DÓLARES** (a deducir de las certificaciones de pago) por cada día de atraso en la terminación y entrega del proyecto; por causas que no estén fuera de su control, hasta que los trabajos estén terminados a satisfacción del Dueño.

II. ESPECIFICACIONES GENERALES

A. Definiciones:

1. Para los términos de estos documentos, las palabras DUEÑO, CONTRATISTA E INSPECTOR quedan definidas como sigue:
 - a. Dueño - Cada vez que se mencione en estos documentos la palabra Dueño se refiere al AUTORIDAD METROPOLITANA DE AUTOBUSES (AMA)
 - b. Contratista - Cualquier persona, sociedad o corporación que ejecute estas obras mediante contrato.
 - c. Inspector - Se denominará Inspector, el Ingeniero, con licencia autorizada para ejercer la profesión en Puerto Rico, que el dueño contrate para hacerse cargo de la inspección y supervisión de las obras de construcción de este proyecto, incluyendo el personal por él designado.
 - d. Especificaciones - Las especificaciones constituyen la parte de los documentos del contrato, donde se describen los equipos, la clase y calidad de la labor a ejecutar y terminación de la obra proyectada demostrada en los "Job Order". Describen y detallan los procedimientos a seguir.
 - e. alguna omisión, no específicamente detallada, será construida con el espíritu general, conforme a la clase de trabajo requerido, según la buena práctica de la profesión de la ingeniería.

B. Examen del Sitio:

El Municipio Autónomo de Guaynabo, coordinará una reunión pre-subasta para informar sobre los detalles de la subasta y discutir los parámetros de los trabajos con los Contratistas asistentes. Y luego se efectuará la visita compulsoria a las facilidades; será responsabilidad del Contratista licitante realizar la inspección del área, corroboren la ubicación de estos, la envergadura de los trabajos, observen, tomen medidas y clarifiquen dudas. Las coordenadas de ubicación son 18.38782, -66.08275

C. Cumplimiento de Leyes, Arbitrios y Ordenanzas Locales:

Tanto el Contratista como sus obreros, serán responsables del cumplimiento de todas las leyes y ordenanzas locales, aplicables a este proyecto. El Contratista pagará por su cuenta todos aquellos costos por arbitrios y patentes aplicables a este proyecto, que estén vigentes localmente.

D. Deberes del Contratista

Para propósitos de este documento, un Contratista será una Compañía o individuo autorizado para ejercer y completar un proyecto de construcción. El contratista no deberá estar desahogado por el Gobierno Federal según verificado en el sistema <https://www.sam.gov>. El Contratista debe someter con su propuesta el Certificado Vigente de SAM.GOV.

El contratista deberá:

- a. Someter con su propuesta sus licencias profesionales y/o cualificaciones vigentes para la realización de los trabajos descritos en los documentos de propuesta (refrigeración, perito electricista, ingeniero (a) etc.).
- b. Desarrollar todo el trabajo de construcción y/o rehabilitación, según descrito en especificaciones y en cumplimiento con el contrato.
- c. Mantener informado al Municipio sobre el progreso de este y de cualquier problema que surja.
- d. Dar acceso a los inspectores, en cualquier momento que el Municipio lo estime necesario y sin previo aviso.
- e. Deberá tener a la mano un expediente de los trabajos, que incluya las minutas de las reuniones de progreso sobre el proyecto.
- f. El Contratista deberá hacer entrega de su programa de trabajo previo al comienzo de las labores.
- g. Deberá mantener el letrero del Municipio Autónomo de Guaynabo, en todo momento, mientras duren los trabajos y hasta su entrega final. Este será requisito indispensable para la tramitación de la certificación de pago. Tamaño 4' x 8'. El Municipio proveerá el arte.
- h. Se enfatiza que, previo al comienzo de sus labores en el Centro, el Contratista deberá revisar bien el listado de los ítems a impactarse en cada Centro. Este cotejo deberá realizarlo juntamente con el Inspector asignado. De encontrar y/o percatarse de algún ítem no incluido en el listado y que según él debiera de ser considerado, deberá consultar con el PM para que este tome la acción que corresponda.
- i. Documentos que deberá someter y tener aprobados antes del comienzo del proyecto:
 1. Plan de Prevención contra Accidentes: Seguridad o "Safety Plan"
 2. Itinerario de Remisiones o "Submittal Log"
 3. Borrador de Desglose de Partidas para Pago; Breakdown for Payments

4. Itinerario de Progreso: Plan de trabajos y tiempo.
5. Listado del personal que estará laborando en los centros y detallando su función.

E. Mano de obra

Todo trabajo debe ser realizado, de acuerdo con los Estándares de Construcción establecidos en este documento. Todo trabajo llevado a cabo por el contratista deberá ser de buena calidad, en acuerdo a las mejores prácticas y métodos de la construcción y durabilidad. La calidad de la mano de obra realizada por el contratista será evaluada por personal de inspección, por representantes de la AMA, previo a la aprobación final.

F. Materiales

Solamente se utilizarán los materiales especificados en este documento, a menos que el Ingeniero Supervisor del Proyecto apruebe por escrito el utilizar uno similar. Esta sustitución de materiales deberá ser solicitada a través de una solicitud al Project Manager del Proyecto, para su correspondiente evaluación. En caso de resultar favorable este cambio, no representará un aumento a los fondos asignados al proyecto, ni una disminución en la calidad de la obra.

G. Libertad de Supervisión:

El Project Manager (PM) y/o personal de los representantes de la AMA para realizar las labores de supervisión e inspección de los proyectos (Mejoras a Facilidades de la AMA). El PM y/o personal de la AMA podrá presentarse en cualquier momento en el area para cotejar los trabajos en proceso. Cualquier deficiencia por él encontrada deberá ser corregida de inmediato. También tendrá la autoridad para aprobar las certificaciones del Contratista por los trabajos realizados, los sometimientos de materiales y/o procedimientos y todo lo que tenga que ver con la administración de los trabajos realizados por el Contratista.

H. Seguros, vallas y seguridad pública:

El Contratista, por su propia cuenta mantendrá y proveerá todos los seguros, barreras, luces, andamios y otros efectos necesarios para asegurar la protección del público y de sus empleados, asumiendo él toda la responsabilidad por cualquier accidente que ocurra durante la construcción de este proyecto y que pueda causar daños al público, sus empleados, o a la propiedad ajena.

I. Limpieza y Organización

Durante el periodo que dure la construcción, instalaciones y/o trabajos, el proyecto estará sujeto a inspección por personal del Municipio. Los materiales y equipos existentes en el proyecto tienen que ser tratados con cuidado por parte del contratista, su movimiento y protección de propiedad es responsabilidad del contratista a menos que se acuerde otra cosa, entre el dueño y el contratista, en el momento de la Reunión Pre-Construcción.

A la terminación del proyecto y antes de su aceptación final, todos sus alrededores y/o pasillos deberán quedar completamente LIMPIOS de escombros, materiales sobrantes, estructuras temporeras, equipo, etc. Toda mancha o sucio será limpiado, pintado, y/o de ser grasa o aceite será removido del pavimento, aceras, paredes y/o hormigón, etc.

J. Pagos:

El Dueño pagará al Contratista, en moneda legal americana, el monto total del contrato por la ejecución del proyecto en la forma y condiciones que estos acuerden.

K. Garantías

Todas las reparaciones, incluyendo equipos instalados, deberán tener una garantía mínima de 1 año o lo que establezca DACO, lo que sea mayor. El contratista deberá asegurar que todo trabajo de electricidad y/o líneas refrigerantes, equipos, accesorios eléctricos, paneles, interruptores, breakers y/o equipos, que son parte del proyecto de rehabilitación, funcionen adecuadamente, una vez concluya la obra. (según aplique)

L. Responsabilidad por daños y reclamaciones:

El Contratista será responsable de cualquier daño o reclamación que surja como consecuencia de la construcción de este proyecto. Garantizará el funcionamiento de todas las obras construidas y/o instaladas y aparatos o equipo para operarlo, por un período de un (1) año o por el período de garantía que ofrezca el fabricante de los equipos que se utilicen, el que sea mayor.

M. Permisos

Para estos trabajos no se contempla permiso de construcción.

Deberán solicitar al 811 "Centro de Coordinación de Excavaciones y Demoliciones Departamento de Transportación y Obras Públicas" un aviso de excavación para el área a impactar.

INDEX

DIVISION 1	-	GENERAL REQUIREMENTS
SECTION 00700	-	GENERAL CONDITIONS
SECTION 01001	-	SUMMARY OF THE WORK
SECTION 01004	-	TEMPORARY OFFICES & FACILITIES
SECTION 01300	-	SUBMITTALS AND CONSTRUCTION DOCUMENTATION
SECTION 01400	-	TESTING LABORATORY SERVICES
SECTION 01500	-	TEMPORARY FACILITIES
SECTION 01630	-	SUBMITTAL SUBSTITUTION REQUEST FORM
SECTION 01770	-	PROJECT CLOSEOUT
 DIVISION 2	-	 SITE WORK
SECTION 02072	-	MINOR DEMOLITION FOR REMODELING
SECTION 02105	-	CLEARING AND GRUBBING
SECTION 02200	-	EARTWORK AND GRADING
SECTION 02220	-	EXCAVATION
SECTION 02225	-	COMPACTION CONTROL
SECTION 02500	-	STORM SEWER PIPE
SECTION 02510	-	ASPHALT CONCRETE PAVING
SECTION 02612	-	ASPHALT PAVEMENT
SECTION 02620	-	CONCRETE, SIDEWALKS AND GUTTERS
SECTION 02900	-	LANDSCAPING

DIVISION 3	-	CONCRETE WORK
SECTION 03109	-	ARCHITECTURAL CONCRETE FORMLINERS
SECTION 03300	-	CAST-IN-PLACE CONCRETE
SECTION 03370	-	GROUTING
DIVISION 4	-	MASONRY
SECTION 04200	-	CONCRETE UNIT MASONRY

DIVISION 9	-	FINISHES
SECTION 09220	-	PORTLAND CEMENT PLASTER
SECTION 09250	-	GYPSUM BOARD
SECTION 09310	-	TILE
SECTION 09510	-	SUSPENDED ACOUSTICAL CEILING
SECTION 09650	-	LUXURY VYNIL PLANK AND TILES

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 00700 - GENERAL CONDITIONS

1. BASIC DEFINITIONS

a. THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary, Special and other Conditions), Drawings, Technical Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is : (1) a written amendment to the Contract signed by both parties; (2) a Change Order; (3) a Construction Change Directive or; (4) a written order for a minor change in the Work issued by the Architect/Engineer. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

b. THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind: (1) between the Contractor and the Architect or the Architect's consultants; (2) between the Owner and a Subcontractor or a Sub-subcontractor; (3) between the Owner and the Architect or the Architect's consultants or; (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

c. THE WORK

- 1) The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and
-

includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

- 2) The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

d. THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location, and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

e. THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

2. CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

- a. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.
- b. Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.
- c. Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.
- d. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of
-

like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern.

3. OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

- a. The Architect/Engineer and the Architect/Engineer's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect/Engineer's or Architect/Engineer's consultants' reserved rights.
- b. The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

4. OWNER

The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. The term "Owner" means the Owner or the Owner's authorized representative.

5. CONTRACTOR

- a. The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a
-

representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

- b. The Contractor shall perform the Work in accordance with the Contract Documents.
 - c. Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.
 - d. Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect/Engineer any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect/Engineer may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.
 - e. The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect/Engineer and shall not proceed with that portion of the Work without further written instructions from the Architect/Engineer. If the Contractor is then instructed to proceed with the required means, methods,
-

-
- techniques, sequences, or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences, or procedures.
- f. The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.
 - g. The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.
 - h. Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.
 - i. The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.
 - j. The Contractor warrants to the Owner and Architect/Engineer that materials and equipment furnished under the Contract shall be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work shall conform to the requirements of the Contract Documents and shall be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect/Engineer, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.
 - k. The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or
-

negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

- l. Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.
 - m. If the Contractor encounters conditions at the site that are: (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or; (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect/Engineer before conditions are disturbed and in no event later than 7 days after first observance of the conditions. The Architect/Engineer will promptly investigate such conditions and, if the Architect/Engineer determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both.
 - n. The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.
 - o. The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner the name and qualifications of a proposed superintendent.
 - p. The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.
-

-
- q. The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals.
 - r. The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.
 - s. The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, temporary fences and/or temporary offices, machinery, and surplus materials from and about the Project.
 - t. To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect/Engineer, Architect/Engineer's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder.

6. Architect/Engineer

- a. The Architect/Engineer will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect/Engineer's action will be taken in accordance with the submittal schedule approved by the Architect/Engineer or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect/Engineer's professional judgment to permit adequate review. Review of such submittals
-

is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect/Engineer's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect/Engineer, of any construction means, methods, techniques, sequences, or procedures. The Architect/Engineer's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

- b. The Architect/Engineer will interpret and decide matters concerning performance and requirements of the Contract Documents on written request of either the Owner or Contractor. The Architect/Engineer's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.
- c. Interpretations and decisions of the Architect/Engineer will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect/Engineer will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

7. SUBCONTRACTORS

- a. A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.
 - b. A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.
 - c. By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be
-

performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect/Engineer. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect/Engineer under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof shall not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor shall be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors shall similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

8. CHANGES IN THE WORK

- a. Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive, or order for a necessary change in the Work.
 - b. Change Order shall be based upon agreement among the Owner, Contractor, and Architect/Engineer; a Construction Change Directive requires agreement by the Owner and Architect/Engineer and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect/Engineer alone.
 - c. Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.
 - d. A Change Order is a written instrument prepared by the Owner and signed by the Owner and Contractor stating their agreement upon all of the following:
 - 1) The change in the Work.
-

-
- 2) The amount of the adjustment, if any, in the Contract Sum; and
 - 3) The extent of the adjustment, if any, in the Contract Time.

9. TIME

- a. Unless otherwise provided, Contract Time is the period, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.
- b. The date of commencement of the Work is the date established in the Agreement.
- c. The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.
- d. Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.
- e. The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.
- f. If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect/Engineer determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect/Engineer may determine.

10. PAYMENTS AND COMPLETION

- a. The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.
-

-
- b. Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Owner, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Owner may require.
 - c. At least ten days before the date established for each progress payment, the Contractor shall submit to the Owner an itemized Application for Payment prepared in accordance with the schedule of values for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner may require, such as copies of requisitions from Subcontractors and material suppliers and shall reflect retainage if provided for in the Contract Documents.
 - d. Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site for such materials and equipment stored off the site.
 - e. The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.
 - f. The Owner may withhold a Certificate for Payment in whole or in part, to the extent reasonably, if in the Owner Representative's opinion, the representations to the Owner required cannot be made. If the Owner Representative is unable to certify payment in the amount of the Application, the Owner Representative will notify the Contractor. If the Contractor and Owner Representative cannot agree on a revised amount, the Owner
-

Representative will promptly issue a Certificate for Payment for the amount for which the Owner Representative is able to make such representations to the Owner. The Owner Representative may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Owner Representative opinion to protect the Owner from loss for which the Contractor is responsible. When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

- g. The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.
 - h. The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers' amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid.
 - i. Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.
 - j. When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Owner a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.
 - k. Upon receipt of the Contractor's list, the Owner Representative will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Owner Representative inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can
-

occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Owner Representative. In such case, the Contractor shall then submit a request for another inspection by the Owner Representative to determine Substantial Completion.

- l. Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Owner Representative will promptly make such inspection and, when the Owner Representative finds the Work acceptable under the Contract Documents and the Contract fully performed, the Owner Representative will promptly issue a final Certificate for Payment stating that to the best of the Owner Representative's knowledge, information and belief, and on the basis of the Owner Representative's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable.
- m. Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

11. PROTECTION OF PERSONS AND PROPERTY

- a. The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.
 - b. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to:
 - 1) Employees on the work and other persons who may be affected thereby.
 - 2) The work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors.
 - 3) Other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.
-

-
- c. The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury, or loss.
 - d. The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying owners and users of adjacent sites and utilities.
 - e. The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents (Safety Officer). This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner.
 - f. If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 7 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.
 - g. The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to lead based paint, asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner in writing.

12. INSURANCE AND BONDS

- a. The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as shall protect the Contractor from claims which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:
-

-
- 1) Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed.
 - 2) Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees.
 - 3) Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees.
 - 4) Claims for damages insured by usual personal injury liability coverage.
 - 5) Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom.
 - 6) Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance, or use of a motor vehicle.
 - 7) Claims for bodily injury or property damage arising out of completed operations.
- b. The insurance required shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.
- c. Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required and thereafter upon renewal or replacement of such coverage until the expiration of the time required. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.
- d. The Contractor shall cause the commercial liability coverage required by the Contract Documents to include: (1) the Owner, the Architect/Engineer and the Architect/Engineer's Consultants as additional insureds for claims caused in
-

whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

- e. Unless otherwise provided, the Owner through the contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.
 - f. Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.
 - g. If the Owner does not intend to purchase such property insurance required by the Contract and with all the coverages in the amount above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then affect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.
 - h. The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising
-

thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

13. CORRECTION OF WORK

- a. The Contractor shall promptly correct Work rejected by the Owner Representative or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed, or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect/Engineer's services and expenses made necessary thereby, shall be at the Contractor's expense.
- b. In addition to the Contractor's obligations, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty.
- c. Nothing contained in this section shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

14. MISCELLANEOUS PROVISIONS

- a. The Contract shall be governed by the law of the place where the Project is located.

END OF SECTION 00700

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01001 - SUMMARY OF THE WORK

1. PROJECT DESCRIPTION

Main entrance improvements, AMA Headquarters, De Diego Ave. San Juan PR

2. TEMPORARY CONSTRUCTION FACILITIES AND GENERAL CONDITIONS

- a. The Contractor shall provide, at his own expense, temporary construction facilities at an area to be designated by the Owner. They shall include, but not be limited to, temporary fences and entrance gates, temporary office and delivery areas, small tools warehouse, and whatever other facilities are required to assure proper construction of the project.

Upon completion of the Project, the Contractor shall remove from the premises all temporary construction facilities and restore the affected areas to their original conditions.

- b. The Owner and the Contractor shall come to an agreement, prior to entering into a Contract, on such items as scheduling and execution of the work, the Contractor's normal working days and hours, downtime of the Owner's normal operations once the plant is in partial operation, access on weekend, nights or off-hours in general, whenever required in order to meet schedules or when the disconnection of utilities is required; the Contractor's storage areas, parking, office, dining and sanitary facilities; temporary power, and water; house-keeping, garbage collection and
-

disposal of debris, safety and security requirements including protection of the Owner's property and inventory; dust control and noise abatement, and other areas of possible conflict between the Owner's and the Contractor's normal operational preferences.

3. PROJECT ACCESS

- a. All entries, exists, deliveries and other pedestrian and vehicular traffic directly related and necessary to the construction work shall be through the contractor temporary fences and access gates to project. The Owner may, at his convenience, install check points elsewhere to control access to the project in which case the Contractor shall be subject to the Owner's established security and operational procedures including positive identification and inspection of packages, toolboxes and vehicles, and whatever other reasonable and lawful measures the Owner estimates are necessary in order to guarantee the plant's security and the safety of the Owner's working staff.
- b. Persons not directly related to the construction process will not be permitted within the Owner's premises.

4. PRECAUTIONS

- a. The Contractor shall take whatever means are required to protect the Owner's interests whenever the work to be performed in connection with the project presents any possible hazard or risk to the Owner's employees, facilities and/or equipment; and shall so notify the Owner in writing with ample time so that the Owner can plan and put into-effect his own safety precautions.
- b. The Owner shall not be responsible for theft, loss, or damage of the Contractor's property unless such damage is proven to be a malicious, willful, or grossly negligent act of the Owner.

5. SCOPE OF THE WORK

a. General

The Contractor shall furnish and install all materials, products, and accessories, and provide all tools, equipment, labor, supervision and overhead required for the completion of the Project as shown on drawings, and specifications, and as described herein in accordance with good industry standards and with governing codes and regulations and meeting all conditions and requirements of the Contract Documents.

- b. Equipment Purchased by Owner to be installed by Contractor
-

The owner will purchase some equipment for the Contractor to install. Contractor shall request owner to provide a complete list of these equipment and a schedule of when the same will be available within the project area ready for its installation.

b. Work Included

1. Planter demolition
2. New Traffic Paint (Yellow) Markings
3. Speed Bump installation
4. Existing sidewalk demolition
5. New Employee entrance layout
6. New 4'-0" Sidewalk

6. COMPLIANCE WITH LAWS, ORDINANCES AND REGULATIONS

- a. The Contractor shall abide by and comply with all laws, ordinance, decrees and regulations of the governing bodies, Federal, Commonwealth, and Municipal, having jurisdiction over the work under this Contract, and shall assume full and sole responsibility for their observance and save the Owner and Architect/Engineer harmless from any loss, damage or claims as may result from his failure, his Subcontractor's failure, or the failure of his employees, agents, or representatives of either, to abide by, comply with, and strictly observe said legal and regulatory disposition.
- b. All construction work shall be done in accordance with the Puerto Rico Building Regulations, Municipality regulations and other codes having jurisdiction, and as shown on drawings and specifications.
- c. Contractor shall be responsible for paying all related fees and taxes and State Insurance Fund.

7. QUALIFICATIONS

- a. Any and all persons involved in the Project shall be thoroughly familiar with, and qualified for, whatever work, trade, or function they will be performing. In the case of Subcontractors, they shall have been previously qualified by the Owner.

8. PRODUCTS AND MATERIALS DELIVERY, STORAGE AND HANDLING

- a. All products and materials shall be delivered to the jobsite in their original tightly sealed containers, or unopened packages or crates, or as established by industry standards, clearly labeled with the manufacturer's name, product identification, required storage conditions, precautionary notices, shelf life and lot number where appropriate.
-

-
- b. Materials shall be stored in cool, dry, well ventilated and protected areas specifically designated for this purpose, as recommended by the product manufacturer, and protected from damage.
 - c. All materials shall be inspected upon receipt at the jobsite, and if found damaged, or deficient in any way, shall be discarded and removed immediately from the project site.

9. EXECUTION

- a. The Contractor shall verify all measurements and dimensions at the project site and confirm that all conditions are adequate for proceeding with the work. Prior to commencing, he shall promptly inform the Owner of any discrepancies or adverse conditions that might affect the quality or progress of the work.
 - b. The Contractor shall coordinate and schedule the work of each trade (or subcontractors) with that of other trades (or subcontractors) affected by or affecting his work.
 - c. The Contractor shall be responsible for maintaining the work areas clean and safe and in accordance with OSHA standards and those of other regulatory agencies, taking whatever precautions are required during unsafe working conditions, and advising the other Contractor's supervisors, and the Owner, of such conditions.
 - d. As part of the work of coordination required of the General Contractor, he shall review the drawings and specifications, prior to commencing the work, and monitor the construction closely so that he may advise the Owner promptly of any apparent error, lack of information, conflict or interference among trades, or within a trade, in order to permit the Owner to seek the Architect/Engineers assistance in clarifying the matter without affecting the project schedule.
 - e. Drawings should not be scaled-off particularly those related to mechanical and electrical work which in many instances are diagrammatical and depend for their final installation on the work of preceding trades and/or in the requirements of a particular manufacturer.
 - f. All installation of equipment, materials or products, application of finishes, and construction in general, shall be done in strict accordance with the product manufacturer's recommendations and/or instructions. When such information is not normally available, all construction work shall be done in accordance with accepted industry standards.
 - g. Contractor shall be responsible for repairing any damage done to the existing construction or to the work of other subcontractors.
-

10. ASBESTOS

Contractor shall not use nor bring into the project site asbestos or any construction, insulation material, etc. with asbestos. Should the contractor find any asbestos material on the project site, he shall promptly notify the owner for its proper removal.

11. CLEAN-UP

Every week and/or as required by the owner, the Contractor shall remove all waste and excess material and rubbish from the work areas and properly dispose of them away from the project site, and take away all equipment, tools and utilities leaving the work areas clean, free of obstructions and ready for the work of other trades and/or uses

END OF SECTION 01001

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01004 - TEMPORARY OFFICES & FACILITIES

1. GENERAL DESCRIPTION

 This section covers the temporary facilities for the work and is supplementary to the conditions of the Contract.

2. Contractor Doesn't require temporary office facilities for the scope of this contract.
3. Storage facilities if required shall be designated by AMA Security personell and PM.
4. Demolition storage area shall be designated by AMA Security personell and PM.

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01300 - SUBMITTALS AND CONSTRUCTION DOCUMENTATION

1. GENERAL

Contractor shall make submissions of all products, materials, and equipment to be furnished and installed under the scope of the contract documents; and shall at the end of construction submit a set of record drawings.

2. RELATED SECTIONS

a. Section 01630 Substitution Request Form

No substitutions will be considered without completing and submitting the Substitution Request Form found in Section 01630.

b. All Sections

These refer to all the included Technical Specifications and Specifications presented within design Work Drawings

3. SUBMITTALS

After checking and verifying all field measurements and after complying with applicable procedures specified in the General Conditions, drawings, specifications and other bid documents, CONTRACTOR shall submit to ARCHITECT/ENGINEER for review and approval in accordance with the accepted schedule of submittals or for other appropriate action if so, indicated in the Documents the following:

a. In the case of all products, materials, and equipment to be furnished and installed under the scope of the Contract Documents, the CONTRACTOR shall submit to the ARCHITECT/ENGINEER for his review and approval:

- 1) Copies, in quantities stated herein, of manufacturer's installation instructions and/or recommendations, samples, detailed shop drawings, data sheets and other printed literature, and whatever other information is normally submitted in connection with the specified products, materials and/or equipment.

b. Each submittal shall bear a stamp or specific written indication that the CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the Contract Documents with respect to the review of the submittal.

-
- c. All submittals shall be identified as the ARCHITECT/ENGINEER may require. The data shown on the submittal shall be complete with respect to quantities, dimension, specified performance and design criteria, materials and similar data to enable the ARCHITECT/ENGINEER to review the information as required.
 - d. The CONTRACTOR shall also submit to ARCHITECT/ENGINEER for review and approval with such promptness as to cause no delay in work, samples of all products, material and/or equipment specified in the Contract Documents or as may be required by ARCHITECT/ENGINEER. All samples shall have been checked by and accompanied by a specific written indication that the CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the Contract Documents with respect to the review of the samples and shall be identified clearly as to product, material and/or equipment supplier pertinent data such as catalog numbers, the use for which intended, etc.
 - e. Before submission of each submittal or sample the CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each submittal or sample with other submittals and samples and with requirements of the Work and the Contract Documents.
 - f. At the time of each submittal, the CONTRACTOR shall give ARCHITECT/ENGINEER specific written notice of each variation that the submittal or samples may have from the requirements of the Contract Documents, and in addition, shall use a specific notation to be made on each submittal submitted to ARCHITECT/ENGINEER for review and approval of each such variation.
 - g. If the CONTRACTOR needs to submit an equal or similar material or equipment, the CONTRACTOR shall provide the ARCHITECT/ENGINEER complete information as required by Section 01630 Substitution Request Form.
 - h. ARCHITECT/ENGINEER will review and approve with reasonable promptness submittal and samples, but the ARCHITECT'S/ENGINEER'S review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or
-

programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. The CONTRACTOR shall make corrections required by ARCHITECT/ENGINEER and shall return the required number of corrected copies of submittal and submit as required new samples for review and approval. The CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ARCHITECT/ENGINEER on previous submittals.

- i. The ARCHITECT'S/ENGINEER'S review and approval of submittal or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ARCHITECT'S/ENGINEER'S attention to each such variation at the time of submittal as required herein and ARCHITECT/ENGINEER has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the submittal or sample approval; nor will any approval by the ARCHITECT/ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the submittal or from responsibility for having complied with the provisions included herein before.
- j. Where a submittal or sample is required by the Specifications, any related Work performed prior to ARCHITECT'S/ENGINEER'S review and approval of the pertinent submittal will be the sole expense and responsibility of CONTRACTOR.
- k. No product or material equipment shall be purchased, nor equipment shall be fabricated until the related submittals and/or samples have been approved by the ARCHITECT/ ENGINEER.

4. SUBMITTAL REQUIREMENTS

- a. Submittals requested for review are listed in individual specification sections or as noted on the Contract drawings. No alternatives or substitutions will be accepted during the submittal process. Accompany each submittal with a transmittal letter stating applicable Specification section or Contract Drawing reference.
- b. Shop drawings:
 - 1) Submit at least two (2) copies to the Owner's Representative. Two (2) of those copies will be used by Engineer. The Engineer will return one original mark-up plus 1 copy of the original mark-up of each shop drawing to the Contractor. If the contractor

requires more copies these shall be added to the stipulated amount.

- 2) Include information for total assembly as outlined in specifications or shown on Contract Drawings.

c. Samples:

- 1) Submit two (2) sets of samples to the Owner's Representative.
- 2) Where color variation occurs, submit minimum of three (3) representative samples per set.
- 3) Submit color samples in single package for color and material finish coordination.

d. Product Data:

- 1) Submit two (2) copies to the Owner's Representative. One (1) of those copies will be used by Engineer. The Engineer will return one original mark-up plus 1 copy of the original mark-up of each item to the Contractor. If the contractor requires more copies these shall be added to the stipulated amount.
- 2) Submit only pages that are pertinent. Mark each copy of standard printed data to identify pertinent products, referenced to Specification Section.
- 3) Delete those items on manufacturer's standard sheets that are not being proposed. Submittals without indications and deletions will be returned without review.
- 4) Modify manufacturer's standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the work. Delete information not applicable.
- 5) Product data is to be maintained at job site as project record documents.

5. PROCEDURES

- 1) Submit a transmittal schedule for all submittals, by Specification section number or Contract Drawing number, within fifteen (15) days after Notice to Commence Work and comply with construction schedule for submittals related to work progress. Coordinate submittals of related items.
-

-
- 2) Contractor submittal schedule shall allow for sufficient review time by the Owner and Engineer. In general Contractor shall allow for a two-week review cycle for each submittal.
 - 3) Identify variations from Contract Documents and product or system limitations, which may be detrimental to successful performance of completed work.
 - 4) Revise and resubmit only those submittals stamped: "Revise and Resubmit" and/or "Rejected". Identify all changes made since previous submittal.
 - 5) Submittals not requested, or previously stamped "Approved" or "Approved as Noted" will not be processed or returned by the Engineer.
 - 6) Submittals requested "For Record" will not be processed or returned by the Engineer.
 - 7) Omission of an item from a list of submittals will not relieve Contractor from responsibility for submitting item required.

6. SUBMITTAL REVIEW

- 1) Submittals, shop drawings, samples and product data will be stamped in one of the following ways:
 - a) "Approved": Submittal is in general conformance with the design intent.
 - b) "Approved as Corrected": Submittal has minor comments. Noted corrections must be made in final installation. Owner's Representative or Engineer has the option to require a re-submittal for record.
 - c) "Revise and Resubmit": Re-submission is required.
 - d) "Rejected": Submittal does not meet contract requirements. Re-submission is required.

Note: Work may be executed under Categories: "Approved" or "Approved as Noted" only.

7. RECORD DRAWINGS

The contractor shall submit to the owner representative and after completion of construction, in accordance with the contract documents, a set of record drawings depicting all changes and/or deviations that occurred during the construction. Such record drawings shall consist of a marked-up set of drawings

that shall reflect all changes made in the specifications and working drawings during the construction process, and show the exact dimensions, geometry, and location of all elements of the work completed under the contract. For this purpose, the contractor shall maintain, at the project site, a complete set of drawings for the purpose of annotating the changes and/or deviations; such annotations shall be clear and shall follow the same drafting standards of the contract documents. Mark record sets with red erasable pencil.

END OF SECTION 01300

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01630 - SUBMITTAL SUBSTITUTION REQUEST FORM

No substitutions will be considered without this completed substitution request form and supporting documentation.

Substitutions made without completion of this form will be considered defective work and contrary to the General Conditions of the Contract Documents.

Date:

Number:

Project: Proyecto Mejoras a Facilidades de la AMA
Autoridad Metropolitana de Autobuses
Calle de Diego #37
Urb. San Francisco
San Juan PR 00927

To: GEOEngineers, PSC.

Re: Request for Substitution

The Contractor proposes the following substitution in accordance with the requirements of the Contract Documents:

Scope of Substitution		
Specification Reference		
Drawing Reference		
Reason for Proposed Substitution		
Benefit to Owner		

Impact on Project Cost		
Impact on Project Schedule		
Impact on Guarantees and Warranties		
Coordination Required with Adjacent Materials and System		
List Deviations from Specified Requirements		

Attachments: Attach supporting documentation sufficient for Architect to evaluate substitution. Substitution Request Forms submitted without adequate documentation will be returned without review.

Attachments _____

Submitted By _____

Firm and Address _____

Signature below signifies acceptance of responsibility for accuracy and completeness of information included in this Substitution Request Form.

Authorized Signature _____

ARCHITECTS RESPONSE

Notations listed below shall have same meaning as on Architect's approval stamp. Clarifications to or changes in project schedule or time shall be processed using standard project forms.

Architect's Response		
Approved		
Approved as Corrected		
Revise and Resubmit		
Rejected		
Returned Without Review		

Remarks _____

Date _____

Signed _____

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01770 - PROJECT CLOSEOUT

1.0 GENERAL

a. CLOSE OUT PROCEDURES

- 1) Project closeout requirements are defined to include those general requirements in preparation for final acceptance: e.g., final payment, normal termination of the contract, evidencing completion of the work. Specific requirements for individual units of work as specified in the technical specifications.
- 2) Contractor shall comply with Conditions of the Contract and Division 1 requirements relating to submittals, prior to substantial completion.
- 3) Provide endorsements and permits required by governing authorities.
- 4) Remove from the project site temporary facilities and services, along with construction tools and facilities.
- 5) Submit last progress payment request, complete with associated punch lists, stating that each item has been completed or otherwise resolved for acceptance.
- 6) Clean-up building and site area.

b. RECORD DOCUMENTS

- 1) Record drawings: Contractor is to maintain at the project site a clean, undamaged set of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies from the Work as originally shown on contract documents. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give attention to concealed elements, which would be difficult to measure and record at a later date.
 - (a) Mark record sets with red erasable pencil.
 - (b) Mark new information that was not shown on the Contract Drawings or Shop Drawings.
 - (c) Organize record drawings into manageable sets bound with durable paper cover sheets, and print titles, dates, and other identification information on the cover of each set. Upon
-

completion of Work, submit record Drawings to the Owner's Representative for the Owner's records.

- 2) Record Specifications: Contractor is to maintain at the project site a one complete copy of the Project Specifications, including addenda, and one copy of other written Construction Documents, such as Change Orders, and modifications issued in print form during construction. Mark these documents to show variations in the actual Work performed in comparison with the text of the Specifications and modifications. Give attention to substitutions, selection of options, and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and Product Data. Upon completion of Work, submit record Specifications to the Owner's Representative for the Owner's records.
- 3) Record Product Data: Contractor is to maintain one copy of each Product Data submittal. Mark these documents to show variations in the actual Work performed in comparison with the information submitted. Include variations in the products delivered to the site, and from the manufacturer's installation instructions and recommendations. Give attention to concealed products and portions of the Work, which cannot otherwise be readily discerned later by direct observation. Note related Change Orders and mark-up of record drawings and Specifications. Upon completion of Work, submit complete set of record Product Data to the Owner's Representative for the Owner's records.
- 4) Record Samples Submitted: The Contractor and the Owner's Representative will meet at the site to determine which of the submitted samples, that have been maintained during the progress of the Work, are to be transmitted to the Owner for record purposes.
- 5) Miscellaneous Record Submittals: Refer to other Specifications Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Complete miscellaneous records and place in good order, properly identified and bound, ready for continued use and reference.

c. CLOSE OUT DOCUMENTS

The Contractor warrants good title to all materials, supplies, and equipment incorporated in the work and agrees to deliver the premises together with all improvements thereon free from any claims, liens or charges, and agrees further that neither it nor any other person, firm or corporation shall have any right to a lien upon the premises or anything appurtenant thereto.

In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or workmanship performed by the Contractor or any subcontractor or supplier at any tier. This warranty shall continue for a period of at least one year from the date of final acceptance of the work. This warranty shall not limit the Owner's rights under the Inspection and Acceptance of Construction clause of this contract with respect to latent defects (10 years from the date of final acceptance), gross mistakes or fraud.

The Contractor shall require to the Owner or his Authorized Representative the final procedure to complete the project closeout process and shall submit the closing documents in such manner and itemized as to meet the approval of the Owner. The Contractor and its insurers acknowledge and agree that in order to receive the refund of the withheld amounts and the payment of the final certification; they shall be submitting the following documents to the owner:

- 1) Occupancy Permit (Unique Permit formerly Use Permit)
 - 2) Fire Department Facilities Inspection.
 - 3) Original of guarantee and warranty of all installed equipment.
 - 4) Operational Manuals and information for all installed equipment.
 - 5) Original of the bonded guarantee of the materials installed in the roofing treatment.
 - 6) Original of the bonded guarantee from the Roofer Sub-Contractor.
 - 7) Release from the State Insurance Fund.
 - 8) Release from all Sub-Contractors (Affidavit).
 - 9) Release from all Suppliers (Affidavit).
 - 10) Release from Insurance Company (Affidavit).
 - 11) One (1) Hard Copy of Red line drawings.
 - 12) Delivery of keys to the main building and its facilities.
 - 13) Release from PR Labor Department.
 - 14) Release from PR Treasury Department.
 - 15) Notarized Assignment of all Guarantees and Warranties on behalf of MAG.
 - 16) Certificate of Release for Final Payment from the Contractor.
-

17)Any other endorsements, permit or related document as may be required by MAG.

END OF SECTION 01770

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01400 - TESTING LABORATORY SERVICES

1. GENERAL

- a. Work Included: From time to time during progress of the work, the Owner will require that testing be performed to determine that materials provided for the work meet the specified requirements; such testing includes, but is not necessarily limited to:

- 1) Cast-in-place concrete-as per specification 03300
- 2) Shop and field welds
- 3) Piping welding testing results
- 4) Relative Humidity Tests Prior to interior flooring Installation

- b. Related work described elsewhere:

Requirements for testing may be described in various Sections of these Specifications; where no testing requirements are described but the Owner decides that testing is required, the Owner may require testing to be performed under current pertinent standards for testing.

- c. Work not included:

- 1) Selection of testing laboratory - The Owner will select a pre-qualified independent testing laboratory.
- 2) Payment for testing services: The CONTRACTOR will pay for the services of the testing laboratory as further described in these specifications.

2. QUALITY ASSURANCE

- a. Qualifications of testing laboratory: The testing laboratory will be qualified to the Owner's approval in accordance with ASTM #329-77 "Recommended Practice for Inspection and Testing Agencies for Concrete, Steel and Bituminous Materials as used in Construction".
- b. Codes and standards: Testing, when required, will be in accordance with all pertinent codes and regulations and with selected standards of the American Society for Testing and Materials.

3. PRODUCT HANDLING

Promptly process and distribute all required copies of test reports and related instructions to ensure all necessary retesting and/or replacement of materials with the least possible delay in progress of the Work.

4. PRODUCTS

a. Payments for Testing Services

- 1) Initial services: The Owner will pay for all initial testing services requested by the Owner.
- 2) Retesting: When initial tests indicate non-compliance with the Contract Documents, all subsequent retesting occasioned by the non-compliance shall be performed by the same testing laboratory and the costs thereof will be deducted by the Owner from the Contract Sum.

5. CODE COMPLIANCE TESTING

Inspections and tests required by codes or ordinances, or by a plan approval authority, and made by a legally constituted authority shall be the responsibility of and shall be paid for by the Contractor, unless otherwise provided in the Contract Documents.

6. CONTRACTOR'S CONVENIENCE TESTING

Inspection or testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

7. EXECUTION

a. Cooperation with Testing Laboratory

Representatives of the Testing Laboratory shall always have access to the work; provide facilities for such access in order that the laboratory may properly perform its functions.

8. SCHEDULES FOR TESTING

a. Establishing schedule

- 1) By advance discussion with the testing laboratory selected by the Owner, determine the time required for the laboratory to perform its tests and to issue each of its findings.
- 2) Provide all required time within the construction schedule.

b. Revising schedule

When changes of construction schedule are necessary during construction, coordinate all such changes of schedule with the testing laboratory as required.

c. Adherence to schedule

When the testing laboratory is ready to test according to the determined schedule but is prevented from testing or taking specimens due to incompleteness of the work, all extra costs for testing attributable to the delay may be back charged to the Contractor and shall not be borne by the Owner.

9. TAKING SPECIMENS

All specimens and samples for testing, unless otherwise provided in these Contract Documents, will be taken by the testing laboratory; all sampling equipment and personnel will be provided by the testing laboratory; and all deliveries of specimens and samples to the testing laboratory will be performed by the testing laboratory.

END OF SECTION 01400

DIVISION 2 - SITE WORK

SECTION 02072 - MINOR DEMOLITION FOR REMODELING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Removal of designated area.
- B. Removal of designated construction.
- C. Disposal of materials.
- D. Identification of utilities.
- E. Refer to items as indicated.

1.2 RELATED SECTIONS

- A. Section 01001 - Summary of Work: Temporary Construction Facilities.
- B. Section 01770 - Contract Closeout: Project record documents.

1.3 SUBMITTALS FOR REVIEW

- A. Section 01300 - Submittals: Procedures for submittals.
- B. Shop Drawings: Indicate demolition and removal sequence, location, and construction of temporary work.

1.4 SUBMITTALS FOR CLOSEOUT

- A. Project Record Documents: Accurately record actual locations of capped utilities, subsurface obstructions, and observations.

1.5 REGULATORY REQUIREMENTS

- A. Conform to currently applicable building code in P.R. for demolition work, dust control, products requiring electrical disconnection and reconnection.
 - B. Obtain required permits from authorities.
 - C. Do not close or obstruct egress width to any building or site exit.
 - D. Do not disable or disrupt building fire or life safety systems without prior written notice to Owner.
-

PARAISO INFANTIL
New Head Start and Early Head Start Center
Autonomous Municipality of Guaynabo
Guaynabo, Puerto Rico

- E. Conform to procedures applicable when hazardous or contaminated materials are discovered.

1.6 SEQUENCING

- A. Section 01001 - Summary of Work: Work sequence.
- B. Sequence activities in the following stages:
 - 1. Prepare area
 - 2. Demolition
 - 3. Removal and disposal

1.7 SCHEDULING

- A. Section 01300 - Submittals
- B. Schedule Work to precede new construction.
- C. Describe demolition removal procedures and schedule.
- D. Perform noisy, malodorous, and dusty work on normal working days between the hours of 7 am and 4 pm.

1.8 PROJECT CONDITIONS

- A. Conduct demolition to minimize interference with adjacent and occupied building areas.
- B. Cease operations immediately if structure appears to be in danger and notify Architect/Engineer. Do not resume operations until directed.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 PREPARATION

-
- A. Provide, erect, and maintain temporary barriers or partitions at necessary locations.
 - B. Erect and maintain weatherproof closures for exterior opening.
 - C. Erect and maintain temporary partitions to prevent spread of dust, odors, and noise to permit continued Owner occupancy.
 - D. Protect existing materials and areas, which are not to be demolished.
 - E. Prevent movement of structure; provide bracing and shoring.
 - F. Notify affected utility companies before starting work and comply with their requirements.
 - G. Mark location and termination of utilities.
 - H. Appropriate Provide temporary signage including signage for exits or building egress.

3.2 DEMOLITION

- A. Disconnect cap and identify designated utilities within demolition areas.
- B. Demolish in an orderly and careful manner. Protect existing supporting structural members.
- C. Remove demolished materials from site except where specifically noted otherwise. Do not burn or bury materials on site.
- D. Remove materials as Work progresses. Upon completion of work leave areas in clean conditions.
- E. Remove temporary Work.

END OF SECTION 02072

DIVISION 2 - SITE WORK

SECTION 02105 - CLEARING AND GRUBBING

1. SCOPE OF WORK

- a. This Section specifies furnishing of all labor, equipment, materials, and supervision necessary to clear and grub the areas indicated on the Contract Drawings in accordance with these Specifications, including, but not limited to the following:
- 1) Removal of all timber, brush, logs, stumps, roots, weeds, rubbish, other vegetation, and other objectionable material.
 - 2) Machine raking of areas cleared and grubbed.
 - 3) Stripping of grassy areas to be filled under other provisions of the Contract.
 - 4) Topsoil stripping.
 - 5) Disposal of materials removed.
 - 6) Protection of existing trees indicated to remain.
 - 7) Removing above-grade improvements.
 - 8) Removing below-grade improvements.

2. DEFINITIONS

- a. Clearing: Clearing is defined as the removal of all trees and structures, stumps, bushes, grass, rubbish, refuse, and other deleterious materials from the area of work. Only such excavation as required for the removal of stumps and structures is to be performed.
- b. Grubbing: Grubbing is defined as the excavation and removal of all trees two inches and larger, roots, stumps, rubbish, and other deleterious materials to a depth of not less than one foot below ground surface and raking to remove matted organic material such as large root masses.

3. GENERAL

- a. Existing Improvements Protection.

Provide barricades, coverings, or other types of protection necessary to prevent damage to existing improvements indicated to remain in place.

Protect improvements on adjoining properties as well as those on the Owner's property.

Restore any improvements damaged by this work to their original condition, as acceptable to the Owners or other parties or authorities having jurisdiction.

b. Protection of Existing Trees and Vegetation:

Protect existing trees and other vegetation indicated to remain in place, against unnecessary cutting, breaking, or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary fence, barricades or guards as required to protect trees and vegetation to be left standing.

Water trees and, other vegetation which are to remain within the limits of the Contract work as required to maintain their health during the course of construction operations.

Provide protection for roots over 1-1/2" diameter that is cut during construction operations. Coat the cut faces with emulsified asphalt, or other acceptable coating, especially formulated for horticultural use on cut or damaged plant tissues. Temporarily cover all exposed roots with wet burlap to prevent roots from drying out; provide earth cover as soon as possible.

Repair or replace trees and vegetation damaged by construction operations, in a manner acceptable to the Architect. Tree damage repair shall be performed by a qualified tree surgeon. Replace trees which cannot be repaired and restored to full growth status, as determined by the tree surgeon.

c. Improvements on Adjoining Property:

Authority for performing removal and alteration work on property adjoining the Owner's property will be obtained by the Owner prior to award of contract.

d. Salvageable Improvements:

Carefully remove items to be salvaged, and store on the Owner's premises where indicated, unless otherwise directed.

4. EXECUTION

a. CLEARING AND GRUBBING

- 1) Timber, brush, logs, stumps, weeds, rubbish, and roots shall be removed to depth of at least one foot below the ground surface.
- 2) If so, shown on the Contract Drawings, specimen trees within the clearing limits shall be protected and left standing.
- 3) Work shall be done with care so as not to damage vegetation adjacent to the limits of clearing.
- 4) Cleared areas shall be thoroughly machine-raked to collect debris for disposal.

b. DISPOSAL OF DEBRIS

- 1) All debris resulting from the clearing and grubbing operation will become the property of the Contractor to be disposed of by him to the satisfaction of the Owner's Representative.
- 2) Burning is prohibited.

END OF SECTION 02105

DIVISION 2 - SITEWORK

SECTION 02200 - EARTHWORK

1. SCOPE OF WORK

a) The contractor shall provide all the material, tools, labor and equipment and perform all the work necessary for the complete execution for all the preparation work and grading work, as shown in the drawings, herein specified, or both and which, without restricting the generality of the foregoing shall include the following:

1. Clearing and grubbing
2. Removal of obstructions
3. Protection or removal of trees, plants, etc.
4. Stripping and storing topsoil
5. Grading excavation
6. Grading fill

2. CLEARING AND GRUBBING

a) Definition

1. Clearing: Clearing is defined as the removal of all trees and structures, stumps, bushes, grass, rubbish, refuse, and other deleterious materials from the area of work. Only such excavation as required for the removal of stumps and structures is to be performed.
2. Grubbing: Grubbing is defined as the excavation and removal of all trees two inches and larger, roots, stumps, rubbish, and other deleterious materials to a depth of not less than one foot below ground surface and raking to remove matted organic material such as large root masses.

b) EXECUTION

1. Brush, weeds, vegetable growth, trash, etc. shall be completely removed from within contract limits.
 2. Trees, stumps, roots, etc. shall be completely removed under footing areas; to 1'6" below finished grade under slabs and 1'0" below finished grade in other areas.
 3. Legally dispose of in accordance with applicable regulations.
-

3. OBSTRUCTIONS

- a) Remove completely all existing foundations, slabs and other obstructions encountered under footing areas; to 1'6" below finished grade under slabs on grounds; to 1'0" below finished grade in other areas.
- b) Completely break up all slabs, platforms, etc. encountered.
- c) Legally dispose of in accordance with applicable regulations.

4. PROTECTION OR REMOVAL OF EXISTING TREES

- a) The number and location of all the existing trees on the project site have not been shown on the drawings. Prior beginning of the excavating and grading in any part of the site, the contractor must be stake out all buildings and roadways to permit the owner's representative verify the trees to be preserved. The Contractor shall render all necessary assistance, including the services of surveyors or engineer, to enable the Owner's representative to make a determination as to retention or removal of trees.
 - b) Trees within five (5) feet of building walls and inside areas of buildings, streets, and paved surfaces, shall be cut to their stumps and roots completely removed.
 - c) All other trees to remain shall be conditioned and protected as specified herein.
 - d) Trees that are found to interfere with street construction or underground utilities may be removed, but not until notice of such interference is given to the Architect and its consent for removal is obtained.
 - e) Stumps and roots within building areas and less than five (5) feet outside of building walls shall be completely removed.
 - f) Whenever necessary, branches interfering with the work to be done according to this contract shall be removed without injury to trunks and other parts of the trees. All cutting or trimming shall be done in accordance with standard modern practices. No fires shall be lit under or near a tree to remain, and no debris or combustible material piled or discarded within spread of branches. Burning is prohibited.
 - g) The Contractor shall block or protect existing trees to remain. All injuries to bark, trunk, and branches of such trees, shall be repaired by dressing, cutting, and painting.
 - h) All debris resulting from the clearing and grubbing operation will become the property of the Contractor to be disposed of by him to the satisfaction of the Owner's Representative.
-

5. STRIPPING AND STORING TOPSOIL

- a) Prior to the start of the grading operations, the Contractor shall strip the upper twelve (12) inches layers of topsoil in the whole area and store it at the places and as directed in the CES Plan. Do not strip topsoil in a muddy condition and avoid admixture of subsoil. The exposed grade resulted, concluded the removal of the topsoil layer shall be proof rolled to detect soft spot and then be brought to an unyielding surface by compaction (95%).
Soft spot encountered during the proof rolling operation shall be excavated and have it replaced with selected material properly placed and compacted.

Do not Strip topsoil from areas where exist only a slight change in elevations between existing and proposed grades, except in the building and structures areas, street and walks sub-grades, etc., which shall have all topsoil removed. Topsoil should be stored at locations where it will not hinder constructions operations. Topsoil stockpiled shall be free from trash, brush, stones over two (2) inches in diameter and other extraneous material. Protect the stockpiled topsoil against loss and the admixture of debris. The topsoil may be used as surcharge fill load. Precaution shall be taken not to mix the topsoil with borrow fill material.

- b) The contractor after completion of work on the subgrade will fill with topsoil in the areas to be covered with grass. Before placing topsoil, raking should leave subsoil surface free of stones, debris, or rubbish. It will create a layer of soil with minimum depth of four (4) inches. Topsoil shall be placed so that upon final settlement remains good drainage that fits the elevations shown on the drawings.

6. OTHER PROTECTION

- a) Protect utility services adjacent to the property, existing fences, roads, curbs, walks, etc.
- b) Restore damaged in approved manner at Contractor's expense to condition equal to that before damage was done.

7. DISPOSAL OF TRASH, ETC

Trash, debris, rubbish, etc., promptly remove from site and dispose of in legal manner. Maintain site in reasonably neat condition during cleaning operations.

8. USE OF EXPLOSIVES

Obtain written authorization of Architect prior to use of any explosives. Comply with all applicable laws and regulations in relation with transportation, storage, and use of explosives. Written authorization from Architect does not release

Contractor from responsibility for any injury or damages caused by explosives and no such responsibility for any injury or damages caused by explosives and no such responsibility is assumed by the Architect.

9. GRADING

Includes all excavation to the specified level, of materials of different nature by any methods used to break and remove such material. The transportation of the excavated material to be used as fill, excess material and material that is not acceptable quality indicated by the Architect in the contract documents and the placing in embankments of borrow material or material excavated, for grading and compaction of the sub-grade, in accordance with the specifications and in conformity with the lines, grade cross sections and dimensions shown in the drawings. The Contractor shall not start excavation until cleaning of the ground has been done, nor shall he begin the work until levels stakeout has been laid out.

The contractor shall be responsible for lines, grades, and control points necessary for finish grading as indicated on the Drawings. Prior to finish grading of the area, verify that all back filling is complete. Correct any washouts or other similar irregularities.

10. FINISH GRADING

Finish grade exposed earth surfaces to within one inch of theoretical grade and for pavement sub-grades to within 0.05 inch of theoretical grade. Compact sub-grade for roads, parking lots, walks and curbs in accordance with Section 02200.

Finish grade slopes to that degree ordinarily obtainable for either blade-grader or scraper operations, or by hand shovel where necessary. Use templates and string lines, or hand raking as required at shoulders, gutters, and similar areas. Finish ditches so they drain readily.

Apply four-inch thickness of topsoil to all areas not under proposed structures or pavements and leave in suitable condition for grassing.

Maintain the finish grades until final acceptance.

11. MATERIAL

The material for fill shall consist of suitable material approved in the contract documents and shall contain no muck, trees, stumps, roots, or rubbish.

The fill material shall be placed and compacted to attain a minimum compaction of 95 % of the maximum dry density as obtained on typical compaction tests made according to ASTM D-1557 and meeting the requirements of an A-2-4 classification (ASTM D-3282) or better material.

The excavated rocks shall be so broken and crushed to the admissible maximum size allowed for stones used as earth fill.

Any excess material discarded by the Owner's representative due to its low quality and not fulfilling the requirements of the material used as fill shall be hauled and deposited outside the property limits unless otherwise specified.

11. OPTIMUM MOISTURE AND MAXIMUM DENSITY

The optimum moisture is the moisture content necessary for maximum compaction of a given material or determined by the compaction test, using Modified Proctor Test ASTM D1557.

The maximum density for a given material is the density obtained by compacting a representative sample of a given material to maximum compaction using Modified Proctor Test D1557.

12. CONSTRUCTION METHOD

The entire existing surface on which an embankment is to be placed shall be placed, steeped or broken up in such a manner that the embankment material will bond with the existing surface.

Embankments shall be constructed with the test-controlled compaction in accordance with the following requirements:

- a) Embankment material shall be spread uniformly in successive approximately horizontal layers not exceeding 20 centimeters in thickness before compaction. Where the material contains individual stones larger than 15 centimeters in greatest dimension such stones shall be broken up before placing or shall be carefully placed individually in the embankment.
 - b) While embankment material is being placed in layers, the tamping or power rollers shall be operated continuously. The number of rollers shall be proportional to the rate at which embankment material is being placed and shall not be less than one roller for each 100 cubic meters or less of material placed per hour. When several embankments, each of small area, are so isolated from one another that roller cannot compact the areas satisfactorily, additional rollers shall be provided.
 - c) Spreading and rolling equipment shall include tamping, power or pneumatic-tired rollers conforming to the following respective requirements:
 - 1) Tamping rollers: A tamping roller unit shall consist of two watertight metal drums mounted in frames as to be fully oscillating, together
-

with a tractor having sufficient weight and power under actual working conditions to pull the roller drums at a minimum speed of 2.5 miles per hour.

The drums shall not be less than 60 inches in diameter and not less than 54 inches in length, measured at the drums surface, and shall be studded with tamping feet projecting not less than seven (7) inches from the face of the drums. The distance between circumferential rows of tamping feet shall be such that the diagonal distance from any foot to the nearest foot in each adjacent row shall be not more than 12 inches, measured center-to-center of feet at the surface of the drums. The cross-sectional area of the face of each tamping foot, measured perpendicular to the axis of the drum shall be not less than 5-1/2 square inches nor more than eight (8) square inches.

The weight of the tamping roller shall be such as to exert a minimum pressure of 250 pounds per square inch on the ground area in contact with the tamping feet and roller shall be so designed that the weight may be increased to exert a pressure up to 500 pounds per square inch on the ground area in contact with the tamping feet. The ground pressure shall be determined by dividing the total weight of the roller unit, not including the weight of the tractor, by the total cross-sectional area of the tamping feet in one row of tamping feet parallel to the axis of the roller.

- 2) Smooth-wheel power rollers: Smooth-wheel power rollers shall be of the 3-wheel type weighing no less than 10 tons and shall provide compression under the rear wheels of not less than 325 pounds per lineal inch of width.
- 3) Pneumatic-tired roller: Pneumatic-tired rollers shall be of the double-axle type equipped with pneumatic tires of equal size and type. The spacing between the sidewalls of adjacent tires shall not exceed five (5) inches; and the rear tires shall be staggered with relation to the front tires. The rolling width of the unit shall not be less than sixty (60) inches exclusive of the power unit. The roller shall be so constructed that the contact pressure is uniformly distributed on all the tires, and the tires shall be inflated to maintain the air pressure in the several tires within a total tolerance of five (5) pounds per square inch. The roller shall be so constructed that the total weight of the roller can be varied to produce an operating weight of between 1,000 and 2,000 pounds per tire. The actual operating weight of the rollers shall be as ordered by the engineer.

Each pneumatic-tired roller shall be drawn by equipment having sufficient power and sufficient weight under normal working conditions to pull the roller at a minimum speed of five (5) miles per

hour or may be self-propelled to obtain a minimum speed of five 5 miles per hour.

- d) Each layer of embankment material shall be moistened or dried to a uniform moisture content, which shall not exceed two (2) percent beyond optimum, and shall be thoroughly compacted by rolling, to not less than the percent of maximum density indicated on drawings.
- e) All earth cuts, full width or part width inside hill work having less than 90 percent of Modified Proctor density (whichever is specified on the drawings for embankment construction) which are not required to be excavated below subgrade elevation for base and backfill, shall be scarified to a uniform depth of at least 20 cm. below subgrade, and the material shall be mixed and reshaped by blading, moistened or dried, and then rolled, in accordance with the requirements outlined.
- f) If there is moisture in excess of that required in the soil being compacted, the excess moisture shall be removed by aerating and exposing the soil to the sun by plowing or cultivating; or the soil shall be mixed with dry approved materials until the moisture content is reduced to the amount specified for proper compaction. The cost of obtaining the proper moisture content shall be considered as a subsidiary obligation of the Contractor and shall not be paid for directly.
- g) The Contractor shall construct all embankments so that after shrinkage and settlement and at the time of acceptance of the project, they shall have the required grade, width, and cross section at all points. The Contractor shall be responsible for the stability of all embankments made under the contract until final acceptance of the work, and shall bear the expense of replacing any portions which have become displaced due to carelessness or negligent work on the part of the Contractor or to damage resulting from natural causes, such as storms, etc. and not attributable, in the opinion of the Architect, to unavoidable movements of ground upon which the embankment is made.
- h) In all cases, proper precaution shall be taken to assure the method of operation in embankment construction does not cause movement of or undue strain on any structure.

END OF SECTION 02200

DIVISION 2 - SITEWORK

SECTION 02220 - EXCAVATION

1. SCOPE OF WORK

- a. The contractor shall provide all the material, labor and equipment and perform all the work necessary for the complete execution of all the Excavation Work, as shown on the drawings, herein specified, or both and which, without restricting the generality of the foregoing, shall include the following
 - 1) Excavation for all footing, piers, walls, foundations as required.
 - 2) Excavation and fill as required for installation of floor slabs, and pits.
 - 3) Placing of controlled Fill Material, compacting of fill materials as required and controlled backfilling.
 - 4) Protection of existing utilities, services and structures.
 - 5) Shoring, bracing, needling, sheet piling, planking and cribbing as required.
 - 6) Furnishing approved fill material if and as required.
 - 7) Excavation for all trenches for laying pipe and perform all other necessary excavation for the proper execution of the work and do all back filling and all other necessary work as hereinafter specified.
 - 8) Pumping and Drainage.

2. GENERAL

Excavation shall include the removal of all materials of every name and nature which may be required for the installation of all work included under the various divisions of these specifications and all other excavation indicated on the drawings, except as otherwise specified herein. Material to be excavated shall be non-classified and shall include earth, sand, hard pan loose or rotten rock, solid rock, or any other material which might be encountered. No adjustment in the Contract Prices shall be made on account of the presence or absence of rock, shale or other material.

In case the Contractor deems necessary to perform additional subsoil investigations to determine latent conditions of the grounds, such investigations shall be performed at no additional cost to the Owner and no adjustment in the Contract Prices shall be made.

-
- a. Excavation for Footing and Foundations: Excavations for all footings, piers, walls, and foundations shall be made as required.
 - b. Should Contractor encounter unsuitable material, he shall immediately notify the Owner Representative, who will examine the material and advise as to the method of proceeding.
 - c. All material excavated shall not be classified but shall include earth, rock and any material encountered.
 - d. Existing ground elevations and finished elevations are shown on the drawings. Excavations shall be carried by this Contractor to the sub-grade to conform to these finished grades, as determined by thickness of slab required.
 - e. Excavations for all floor slabs where they are placed on fill shall be carried to firm bearing material.
 - f. Grade top perimeter of excavation to prevent surface water from draining into excavation.
 - g. Use precaution during final excavation to subgrade level to prevent disturbance and remolding of subgrade material. Hand trim excavation as required. Remove loose material.

3. FILL

- a. All suitable material removed from the excavation shall be used as fill where required. Should there be a deficiency of suitable material to achieve the finish grades shown, Contractor shall be required to supply such additional fill as is required, at his own expense. Such material shall be subject to the approval of the Owner's Representative and shall be generally granular in character.
 - b. Fill under structure shall be constructed of earth and mixture of earth and granular material, deposited in successive layers. Except as hereinafter permitted, the depth of each layer shall not be more than six (6) inches before compaction. The entire area of each layer shall be compacted by mechanical means. Compaction shall be continued until each layer is thoroughly consolidated for its full width. The dry density shall be not less than 95 percent of the dry density achieved by the ASTM D-1557 and meeting requirement of an A-2-4 classification (ASTM D-3282) or better material. Depending on the material and weather conditions, it may be necessary to supplement mechanical compaction methods by control of moisture in the material. Contractor shall keep necessary watering equipment available on site.
 - c. No stone over five inches (5") in its greatest dimension shall be placed within twelve inches (12") of subgrade elevation, or against walls.
-

4. SHEET PILING, SHORING AND BRACING

Temporary sheet piling, shoring and bracing of sound timber or rolled steel shapes of the required size shall be installed wherever required to maintain the banks of excavation in a safe and stable condition, to prevent cave-ins, slips or washouts, and to adequately protect life and property Contractor to provide temporary bridges as required.

5. WEATHER LIMITATIONS AND TESTS

- a. Weather Limitations: If operations are interrupted by heavy rains, the Contractor shall make special provisions for immediately draining the site and shall suspend fill operations. Fill operations shall not be resumed until the tests indicate the moisture content of the fill and borrow are such as to permit compliance with the specifications.
- b. Tests: At various times during the fill operations, the Contractor will have field tests made of the compaction density and moisture content of the fill, and the Contractor shall abide by the results thereof in the further conduct of the work, and in the correction of the conditions, if necessary, test shall be paid for the Contractor.

6. WORKMANSHIP - GENERAL

- a. All excavations shall be large enough to provide adequate clearance for the proper execution of the work within them.
 - b. Provide a benchmark on the site. All elevations on the work shall be calculated from this point.
 - c. The bottom of all excavation for footings shall be exactly level.
 - d. Sloping surfaces under foundations shall be cut in steps, as directed indicated on the drawings, or as directed by Owner Representative.
 - e. The Contractor shall notify the Owner of every variation of the soil, and of unfavorable conditions encountered in the excavation.
 - f. Hand excavate all areas where required.
 - g. All excavation shall be carried only to the levels indicated.
 - h. No additional compensation will be paid for excavation which extends beyond or below the established lines or levels of the required excavations without prior approval Owner Representative.
 - i. If the ground is not sufficiently firm to stand by itself, sides of excavations shall be shored up or sheet piling, and sizes of excavations shall be increased accordingly.
-

j. Fill all remaining voids when sheet piling is withdrawn.

7. PROTECTION OF EXISTING UTILITIES, SERVICES AND STRUCTURES

The Contractor shall sustain in place and protect from injury all utilities, services and structures and any other property, privately or publicly owned in the vicinity of the work. In case of damage or injury, willful or otherwise, to said utilities, shall restore the damage and repay such amount as may be sufficient to cover the expense of replacement and damages occasioned thereby.

8. PIPE TRENCH EXCAVATION

All excavation shall be by open cut *from* the surface. No tunneling will be allowed unless by written permission of the Engineer. The trench shall be excavated along the line designated by the Engineer and depth necessary to lay the pipe at the grade given by him. The trench shall be excavated to conform as nearly as possible to the shape of the lower half of the pipe, with holes cut at the joints for the bell to rest in, to provide a uniform support for the entire length of the pipe. In case a trench is excavated below the proper grade, it shall be refilled to the proper grade with sand thoroughly rammed, without extra compensation, unless the Engineer in writing ordered such extra excavation, or if specifically included under other item. In rock, the trenches shall be executed 10 centimeters below grade and refilled to grade with sand or other material.

The sides of the trenches shall be kept vertical, by bracing, sheathing, shoring or sheet piling, if necessary. No allowance for sheet piling or sheathing left in place will be made. When left in place the sheathing or sheet piling shall be cut off 30 centimeters below the surface.

The length of trench excavated ahead of the pipe laying, and the length of trench which may remain open at one time, shall be subject to the approval of the Engineer. It shall at no time be greater than can properly be protected from caving, or to prevent accidents.

The Contractor shall erect and maintain suitable barriers around all excavations to prevent accidents to the public or to workmen and shall place and maintain a sufficient number of red lights on the work from sunset to sunrise.

In backfilling trenches, loose, fine earth, free from stones, shall be used to a depth of 30 cm. over the top of the pipe. This shall be tamped with the utmost care in layers not more than 15 cm. The remainder of the trench shall contain no more than 50% stone and no one stone shall weigh more than 50 lbs. The material shall be thoroughly tamped in layers of 20 cm. Backfilling up to 30 cm. over the top of the pipe shall be done by hand. Backfilling from the bottom of the trench to the top of the pipe shall be tamped in layers of 0.20 in. and with mechanical or pneumatic tamper. If there is not sufficient suitable material for backfilling, the Contractor will be required to furnish same at his own expense, unless specifically included under another item.

No excavated material shall be sold, removed, or given away by the Contractor, and all excess material, after the backfilling is completed, shall be promptly removed as per indications in the Consolidated General Permit.

No pipe shall be covered until it has been inspected and with the permission of the Engineer. When embankment is necessary to cover the pipe shall be done by the Contractor without extra compensation.

9. PUMPING AND DRAINAGE

- a. The site shall always be kept free of water by pumping and/or drainage. Provide all pumps and necessary equipment and labor for around the clock control.
- b. If deep drainage pumps are required and standing water is in excess of 2'-0" they shall be adequately protected and barricaded to guard against accidents.

END OF SECTION 02220

DIVISION 2 - SITE WORK

SECTION 02225 - COMPACTION CONTROL

1. WORK INCLUDED

- a. The work in this Section includes furnishing all labor, equipment, materials, and supervision required to obtain the specified compaction control defined herein or as specified in other Sections of these Specifications or the Contract Drawings.

2. RELATED WORK

- a. 02200 Earthwork and Grading

3. REFERENCES

- a. Industry standards governing this work of the latest issue at the date of this specification release as shown above except as otherwise noted:
 - 1) American Society for Testing and Materials (ASTM):
 - 2) ASTM D 1556 Density of Soil in Place by the Sand-Cone Method.
 - 3) ASTM D 1557 Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 10-lb. (4.54 Kg) Hammer and 18-in. (457 mm) Drop.
 - 4) ASTM D 2922 Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

4. QUALITY ASSURANCE

- a. Requirements of Section 02200.
 - b. Deficient areas indicated by the above testing shall be reworked by the Contractor to the satisfaction of the Owner's Representative at the Contractor's expense. The cost of the retesting for compliance shall also be borne by the Contractor.
 - c. The Modified Proctor Test. ASTM D 1557 will be used to determine the percentage of compaction.
 - d. In-place density tests of the compacted fill shall be made in by methods specified under ASTM D-1556 or D-2922 accordance with the following
-

minimum schedule:

- 1) At least on test for every 100 cubic yards of fill.
 - 2) At least on laboratory Modified Proctor Test shall be performed for each distinctive type of material to be used in the fill.
- e. The Independent Testing agency will approve all fill material and certify in writing that the specified compaction requirements are met. The Testing Agency will also approve all subgrades before placement of fills and all fill layers during construction.

5. SUBMITTALS

- a. The Independent Testing Agency will submit formal reports of all soil tests and retests. Two copies of all test reports and/or certifications will be furnished to the Architect, Owner's Representative, and the Contractor. The reports will be furnished as soon as possible upon completion of the required tests. The test reports will include but not necessarily be limited to the following items:
- 1) Date of test and date submitted.
 - 2) Location of test.
 - 3) Wet weight, moisture content and dry weight of field samples.
 - 4) Maximum dry density and moisture content of the laboratory sample which best matches the field sample in color, texture, grain size, and maximum dry density.
 - 5) Description of soil.
 - 6) Ratio of field dry density to maximum laboratory dry density expressed as a percent.
 - 7) Comments concerning the field density passing or failing the specified compaction.

6. COMPACTION REQUIREMENTS

- a. Percentage of compaction shall meet the requirements of 90% as per ASTM D-1557, under the building, structures and 95% under the paved areas.
- b. The moisture content of the specified densities shall be within 3 percent more or less than the optimum.

7. FINAL COMPACTION OF SUBGRADE WITHIN BUILDING AND PAVED AREAS

-
- a. After below grade structures and utilities have been completed, and all backfill and fill have been completed within the building, paved areas, the entire area, including cut, fill, backfill, and all remaining subgrade surfaces, shall be given final rolling to produce the maximum density required throughout the upper 12 in. of the subgrade surface.

Any irregularities and depressions and ruts which develop under this rolling shall be corrected by the required loosening of material and adding, removing or replacing of material until surface is smooth, uniform and compacted to specified density. Any portion of the area which is not accessible to roller shall be compacted to specified density by approved mechanical tampers. Any soft and unyielding material and material which will not compact readily to required density shall be removed and replaced with suitable material compacted in place to required density.

END OF SECTION 02225

DIVISION 2 - SITEWORK

SECTION 02510 - ASPHALTIC COCRETE PAVING

1. SCOPE OF WORK

- a) The contractor shall provide all furnishing of labor, equipment, and materials necessary to construct the asphaltic concrete roads, drives, and other paved areas shown on the Contract Drawings and as specified herein. Work shall also include furnishing and applying bituminous tack coats.

2. QUALITY ASSURANCE

a) General:

- 1. Soil and material testing to ensure compliance with the Contract Documents will be arranged and paid for by the Contractor.
- 2. Deficient areas indicated by the above testing shall be reworked, or replaced, as directed by the Owner's Representative at the Contractor's expense. The cost of re-testing for compliance shall be borne by the Contractor.

b) Job Mix:

- 1. The paving operation shall not begin until the job mix for asphaltic concrete has been established by the Contractor and submitted to the Owner's Representative for approval. After the mix is established and approved, the mixture used on the project shall meet the approved mix within the specified limits.
- 3. Certification of Mix: The supplying plant for asphaltic concrete shall certify, in writing, that each batch delivered to the site meets the requirements of this Specification.

c) Testing:

- 1. Test the compacted asphaltic concrete mixture and report the following to the Owner's Representative. At least one test shall be done for each day's paving unless directed otherwise by the Owner's Representative.
-

-
- a. Bulk density in accordance with ASTM D 1188.
 - b. Marshall stability and flow in accordance with ASTM D 1559.
 - c. Conformance to the approved job mix gradation.
 2. Test the in-place compacted asphaltic concrete for density and thickness as herein specified, or as shown on the drawings. Perform one test for each 500 square yards, or 50 tons of paving, but not less than one test per day.
 3. The Contractor shall repair all test holes and coring's resulting from the testing and retesting of his work at no cost to the Owner.

3. SUBMITTALS

- a) Submit copies of the following reports to the Owner's Representative:
 1. Proposed job mix for approval at least 14 days prior to the start of the paving operations.
 2. Certification of Mix: Shall be furnished by the supplying plant for asphaltic concrete daily accompanying the final truck load batched for each day's work.
 3. Test Reports of In-Place Compacted Asphaltic Concrete: Submit copies of the testing agencies' reports on all specified tests performed on the asphaltic concrete and base material. The reports shall give the date and location where all tests were made. Test reports shall be submitted as soon as possible after the test is done.

4. MATERIALS

- a) Asphaltic concrete surface course shall conform to the Puerto Rico DOT, Standard Specifications for Road and Bridge Construction, Section 401 Type S-1 (75) mixture.
 - b) Asphaltic concrete for binder course shall conform to the Puerto Rico DOT Standard Specifications for Road and Bridge Construction, Section 401 Type B-1 (75) mixture.
 - c) Liquid asphalt for tack coats shall conform to the requirements of the Puerto Rico DOT Standard Specifications for Road and Bridge Construction, Section 407.
 - d) Liquid asphalt for prime coats shall conform to the requirements of the Puerto Rico DOT Standard Specifications for Road and Bridge Construction, Section
-

5. TACK COAT

- a) Normally, a tack coat will not be required on primed bases except in areas that have become excessively dirty and cannot be cleaned, or in areas where prime coat has cured to the extent that it has lost all bonding effect. The areas where tack coat shall and shall not be applied will be determined by the Owner's Representative.
- b) A tack coat shall be required on every course of asphaltic concrete before placing the next course.
- c) The tack coat shall be uniformly applied with a pressure distributor at a rate of 0.08 to 0.12 gallons per square yard. The application temperature shall be between 50NF and 160NF. The exact application rate and temperature will be determined by the Owner's Representative between the specified limits. After the tack coat is applied, it shall be allowed to sit until it is tacky enough, in the opinion of the Owner's Representative, to receive the asphaltic concrete course. Traffic shall not be allowed on the tack coat.
- d) Contact surfaces, such as manholes, and other structures shall be painted with prime coat.

6. ASPHALTIC CONCRETE

- a) The asphaltic concrete mix shall be transported to the site at a temperature of 275NF to 325NF. Any mixture that has cooled below 275NF shall not be used.
 - b) Should rain come up during the process of the work, the paving operation shall shut down immediately. No surface mixture shall be laid until the foundation is dry.
 - c) Use the correct amount of mixture to insure that after compaction, the finished wearing surface meets the thickness requirements as shown on the drawings within a tolerance of $\frac{1}{4}$ inch. The finished surface shall not vary from the elevations shown on the drawings by more than $\frac{1}{4}$ inch.
 - d) Placing Mixture by Machine Spreading:
 - 1. The mixture shall be dumped into an approved mechanical spreader and immediately spread and struck off to the full width required and to such loose depth that when the work is completed, the thickness
-

required will be secured.

2. An excess amount of mixture shall be carried ahead of the screed at all times. Hand raking shall be done behind the machine as required, and straight edging and back patching shall be done after initial compression has been obtained and while the material is still hot.

e) Placing Mixture by Hand Spreading:

1. In limited areas where, due to irregularities or unavoidable obstacles, the use of the mechanical spreading and finishing equipment is impracticable, the mixture may be spread by hand with the approval of the Owner's Representative.
2. Where hand spreading is authorized, the mixture, upon arrival, shall be dumped at the area on which it is to be spread and shall be immediately distributed into place by means of suitable shovels and other tools and spread with rakes in a uniformly loose layer of such depth as will result in a compacted course having the thickness required.

f) Compaction:

1. After spreading as specified, the mixture shall be compacted with rollers as soon as possible in order that no displacement occurs. However, before any rolling is started, the finished surface shall be checked and inequities adjusted, and all drippings, fat sandy accumulations from the screed and all fat spots from any source shall be removed and replaced with satisfactory material.
 2. Rolling shall begin at the sides and progress toward the center parallel to the centerline of the pavement uniformly lapping at least one-half width of the roller. Alternate trips of the roller shall be terminated in stops at least two feet distant from any preceding stops.
 3. The motion of the roller shall at all times be slow enough to avoid displacement of the mixture. Should any displacement occur, correct at once by the use of rakes and fresh mixture.
 4. After final completion, the finished pavement shall have a density of not less than 95% of the laboratory compacted density.
 5. In all places inaccessible to a roller, such as adjacent to manholes,
-

the required compaction shall be secured with hand tamps.

6. Depressions which may develop before the completion of the rolling shall be remedied by loosening the mixture laid and adding new material to bring such depression to a true surface.
7. Should any depressions remain after the final compaction has been obtained, the mixture shall be removed, and new material added to form a true surface.
8. The surface after compaction shall be of the required thickness and no areas shall have an excess of asphalt cement. Spots showing such excess or other defect shall be cut out and replaced with fresh mixture and immediately compacted to conform with the surrounding area.
9. At the end of each day's work, or whenever laying is to be discontinued for such a length of time as to allow the mixture to become chilled, transverse joints shall be formed by laying a board of the compacted thickness of the pavement across the width of the strip being spread and rolling the mixture against the board.
9. After the completion of the pavement, no vehicular traffic shall be permitted on the pavement until it has set sufficiently, and in no case less than 24 hours after completion.

END OF SECTION 02510

DIVISION 2 - SITE WORK

SECTION 02612 - ASPHALT PAVEMENT

1. SCOPE OF THE WORK

This section includes hot-mix asphalt pavement for asphalt base and wearing courses.

2. LAYOUT, LINES, LEVELS

- a. Run from property monuments and benchmarks.
- b. Grade stakes placed in lanes parallel to center line of area to be paved.
- c. Protect and maintain during construction.
- d. Accurately locate center line, radius of curve and tangency.

3. PROTECTION

- a. Planking - all pavement crossed by equipment.
- b. Barricades - all open excavation; maintain lanterns at night.

4. SUBGRADES

- a. Grade and cross grade to levels and profiles shown.
- b. Soft or spongy material, or material which may decompose - remove, fill voids with acceptable fill material. Compact all fill material to 90% Modified Proctor Density as specified under Section Earthwork.
- c. Inspected, tested, checked for grade and cross section prior to performance of subsequent work.

5. APPLICABLE PUBLICATIONS

The following publications, of issues in effect at time of soliciting bids, but referenced herein by the basic designation only, form a part hereof to the extent indicated by the reference thereto.

Asphalt Institute

Asphalt Handbook MS-4

Standard Specifications for Road and Bridge Construction, P.R.H.A. (1989)

American Society for Testing and Materials (ASTM)

- D 242 Mineral filler for bituminous paving mixtures
- D 692 Coarse aggregate for bituminous paving mixtures
- D 946 Asphalt cement for use in pavement construction
- D 1073 Fine aggregate for bituminous paving mixtures
- D 1559 Resistance to plastic flow of bituminous mixtures using Marshal apparatus
- D 1663 Hot-Mixed, hot laid asphalt paving mixtures
- D 1664 Coating and stripping of bitumen-aggregate mixtures

6. MATERIALS

- a. Coarse aggregate - ASTM - D 292, at least 75% of pieces with two or more fractured faces. Percentage of wear by Los Angeles Test not to exceed 55.
- b. Fine aggregate - ASTM - D 242
- c. Mineral filler - not less than two-thirds of material passing 200 mesh screens shall be non-plastic conforming to ASTM - D 1073
- d. Asphalt cement - ASTM - D 946, penetration grade 85-100.

7. PAVEMENT MIXES

- a. Unless otherwise shown on drawings, or directed, mix compositions shall be B-1 (75) for base course and Type S-1 (75) for surface course, in accordance with To specification 401- Hot Mix Bituminous Pavement, of Highway Authority's Book "Standard Specifications for Road and Bridge Construction". Thickness of each course as shown on drawings.
-

8. PLACING

- a. Unless otherwise directed placing shall begin at center line of crowned sections and at high side of one-way slope sections.
- b. Spreading and rolling shall be as continuous as possible.
- c. Joints shall present same texture, density, smoothness as other sections of the course. Joints in base course shall not coincide with joints in surface course.

9. COMPACTION

- a. Start rolling as soon as mixture will bear roller without undue displacement.
- b. Compact from sides to center, overlapping by at least one-half the width of rear wheel on successive trips. Alternate trips shall be of slightly different lengths.
- c. Any displacement mixture shall be corrected at once by rakes and fresh mixture added or mixture removed as required.
- d. In areas inaccessible to rollers compact by use of approved mechanical or hand tampers.
- e. Continue compaction until roller marks are eliminated and coarse has a density of at least 96% of a laboratory specimen of the same mix when subjected to 50 blows per side in the Marshal mold.
- f. Trim all edges neatly.

10. SAMPLING AND TESTING

- a. All sampling and testing shall be performed by an approved testing laboratory at the Contractor's expense.
 - b. Contractor shall cut samples and satisfactorily replace pavement. Samples of plant mixtures shall be taken and tested for each day's placing, unless otherwise directed.
 - c. The following tests shall be performed.
 - 1) Smoothness Test - Check smoothness after rolling or each course with 10 ft. straight edge. Irregularities greater than 1/4" in 10'0" in base course, shall be corrected.
-

-
- 2) Test samples of plant mixtures to determine gradation and bitumen content.
 - 3) Thickness of both base and surface courses measured by 3" dia. test holes; at least one test for each 500 square yards or fraction of each course.

END OF SECTION 02612

DIVISION 2 - SITE WORK

SECTION 02620 - CONCRETE SIDEWALKS, CURBS AND GUTTERS

1. SCOPE OF WORK

The contractor shall provide all labor, materials, tools, plant, and equipment for the construction of concrete curbs, gutters and walks on prepared beds in accordance with these specifications and in conformity with the lines, grades, dimensions, and designs shown on the drawings. The work includes the construction of the bed courses.

2. MATERIALS

- a) Bed Course: Bed course material shall consist of cinders, sand, slag, gravel, crushed stone, or other approved material of such grading that all particles will pass through a sieve having 1/2-inch square openings.
- b) Concrete: Concrete shall be 3,000 psi unless otherwise indicated in the drawings and it shall conform to the requirements of ACI Specification for Structural Concrete (ACI 301).

3. CONSTRUCTION

- a) Preparation of the Bed: Excavation shall be made to the required depth, and the foundation shall be shaped to conform to the section shown on the drawings and compacted to a firm, even surface. All soft and unsuitable material shall be removed and replaced with acceptable material. Bed course material shall be placed and compacted to form a bed course of the required thickness.
 - b) Forms and Expansion Joints: Forms shall be made of metal or of straight and sound lumber at least 2 inches in thickness. They shall be free of warp, and of sufficient strength to resist springing out of shape under pressure of the concrete. Forms shall be stacked securely in position at the correct line and elevation.
 - c) Placing: The mixing, placing, finishing, and curing of concrete shall conform to Specifications for Structural Concrete (ACI 301). Sidewalks shall have a light broom finish transverse to line of traffic to improve traction; curbs and gutters shall have wood float finish.
 - d) Curbs and gutters shall be constructed in approximately 10'-0" sections with 1/8" steel plate shaped to full cross section of curb and gutter, remove plate as soon as concrete has set to hold shape.
-

-
- e) The concrete walk between expansion joints shall be divided into blocks by transverse cuts, extending to at least one-third the depth of the slab, unless otherwise shown on the drawings.
 - f) The edges of the walk and the transverse cuts shall be shaped with a suitable tool, so formed as to round the edges to 1/2" radius.
 - g) All concrete work shall be protected against injury of the clean cuts and defacement of any nature.
 - h) Curing shall be done in accordance with Specifications for Structural Concrete (ACI 301).

END OF SECTION 02620

DIVISION 2 - SITE WORK

SECTION 02900 - LANDSCAPING

1. GENERAL

A. RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

2. SUMMARY

A. This Section includes the following:

1. Trees
2. Shrubs
3. Ground covers
4. Plants
5. Lawns
6. Topsoil and soil amendments
7. Fertilizers and mulches
8. Stakes and guys
9. Landscape edgings

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 2 Section "Site Clearing" for protection of existing trees and planting, topsoil, stripping and stockpiling, and site clearing.
 2. Division 2 Section "Tree Protection and Trimming" for protection of existing trees and planting.
 3. Division 2 Section "Earthwork" for excavation, filling, rough grading, and subsurface aggregate drainage and drainage back fill.
 4. Division 12 Section "Interior Plants and Planting" for interior plants, trees, and vines.
-

-
- 5. Division 12 Section "Interior Planter" for pots and urns for interior plantings.

3. SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product certificates signed by manufacturers certifying that their products comply with specified requirements.
 - 1. Manufacturer's certified analysis for standard products.
 - 2. Label data substantiating that plants, trees, shrubs, and planting materials comply with specified requirements.
- C. Samples or each of the following:
 - 1. Edging materials and accessories to verify color selected.
- D. Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and address of architects and owners, and other information specified.
- E. Planting schedule indicating anticipated dates and locations for each type of planting.
- F. Maintenance instructions recommending procedures to be established by Owner for maintenance of landscaping during the entire year. Submit before expiration of required maintenance periods.

4. QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who has completed landscaping work similar in material, design, and extent to that indicated for this Project and with a record of successful landscape establishment.
 - 1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on the Project site during times that landscaping is in progress.
-

-
- B. Provide quality, size, genus, species, and variety of trees and shrubs indicated, complying with applicable requirements of ANSI Z60.1 "American Standard for Nursery Stock."
 - 1. Selection of trees and shrubs purchased under allowances will be made by Landscape Architect, who will tag stock at their place of growth before they are prepared for transplanting.
 - C. Report suitability of topsoil for growth of applicable planting material. State recommended quantities of nitrogen, phosphorus, and potash nutrients and any limestone, aluminum sulfate, or other soil amendments to be added to produce a satisfactory topsoil.
 - D. Measurements: Measure trees and shrubs according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements 6 inches (150 mm) above ground for trees up to 4-inches, (100-mm) caliper size, and 12 inches (300 mm) above ground for larger sizes. Measure main body of tree or shrub for height and spread; (do not measure branches or roots tip-to-tip.)
 - E. Pre-installation Conference: Conduct conference at Project site to comply with requirements of Division 1 Section "Project Meetings."

5. DELIVERY, STORAGE, AND HANDUNG

- A. Packaged Materials: Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.
 - B. Sod: Harvest, deliver, store, and handle sod according to the requirements of the American Sod Producers Associations (ASPA) "Specifications for Turf grass Sod Materials and Transplanting/Installing."
 - C. Trees and Shrubs: Deliver freshly dug trees and shrubs. Do not prune before delivery, except as approved by Landscape Architect. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy natural shape. Provide protective covering during delivery. Do not drop trees and shrubs during delivery.
-

-
1. Immediately after digging bare-root stock, pack root system in wet straw, hay, or other suitable material to keep root system moist until planting.
- D. Handle balled and burlapped stock by flic root ball.
 - E. Deliver trees, shrubs, ground covers, and plants after preparations for planting have been completed and install immediately. If planting is delayed more than 6 hours after delivery, set planting materials in shade, protect from weather and mechanical damage, and keep roots moist.
 1. Heel-in bare-root stock. Soak roots in water for 2 hours if dried out.
 2. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
 3. Do not remove container-grown stock from containers before time of planting.
 4. Water root systems of trees and shrubs stored on site with a fine-mist spray. Water as often as necessary to maintain root systems in a moist condition.

6. PROJECT CONDITIONS

- A. Utilities: Determine location of above grade and underground utilities and perform work in a manner which will avoid damage. Hand excavate, as required. Maintain grade stakes until removal is mutually agreed upon by parties concerned.
- B. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Landscape Architect before planting.

7. COORDINATION AND SCHEDULING

- A. Coordinate installation of planting materials during normal planting seasons for each type of plant material required.

8. WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run
-

concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

- B. Special Warranty: Warrant the following living planting materials for a period of six months after date of Substantial Completion, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, abnormal weather conditions unusual for warranty period, or incidents that are beyond Contractor's control.
 - 1. Trees
 - 2. Shrubs
 - 3. Ground covers
 - 4. Plants
- C. Remove and replace dead planting materials immediately unless required to plant in the succeeding planting season.
- D. Replace planting materials that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
- E. A limit of one replacement of each plant material will be required, except for losses or replacements due to failure to comply with requirements.

9. TREE AND SHRUB MAINTENANCE

- A. Maintain trees and shrubs by pruning, cultivating, watering, weeding, fertilizing, restoring, planting saucers, tightening and repairing stakes and guy supports, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Spray as required to keep trees and shrubs free of insects and disease. Restore or replace damaged tree wrappings. Maintain trees and shrubs for the following period:
 - 1. Maintenance Period: 6 months following Substantial Completion.

10. GROUND COVER AND PLANT MAINTENANCE

- A. Maintain ground cover and plants by watering, weeding, fertilizing, and other operations as required to establish healthy, viable plantings for the following period:
-

-
1. Maintenance Period: 6 months following Substantial Completion.

11. LAWN MAINTENANCE

- A. Begin maintenance of lawns immediately after each area is planted and continue until acceptable lawn is established, but for not less than the following periods:
 1. Sodded Lawns: 30 days after date of Substantial Completion.
- B. Maintain and establish lawns by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn.
- C. Watering: Provide and maintain temporary piping, hoses, and lawn-watering equipment to convey water from sources and to keep lawns uniformly moist to a depth of 4 inches (100 mm).
 1. Water lawn at the minimum rate of 1 inch (25 mm) per week.
- D. Mow lawn as soon as there is enough top growth to cut with mower set at specified height for principal species planted. Repeat mowing as required to maintain specific height without cutting more than 40 percent of the grass height. Remove no more than 10 percent of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet.
- E. Postfertilization: Apply fertilizer to lawn after first mowing and when grass is dry.
 1. Use fertilizer that will provide actual nitrogen of at least 1 lb. per 1000 sq. ft. (0.5 kg per 100 sq. m) of lawn area.

12. TREE AND SHRUB MATERIAL

- A. General: Furnish nursery-grown trees and shrubs conforming to ANSI Z60.1, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully-branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
-

-
- B. Grade: Provide trees and shrubs of sizes and grades conforming to ANSI Z60.1 for type of trees and shrubs required. Trees and shrubs of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.
 - C. Label each tree and shrub with securely attached, waterproof tag bearing legible designation of botanical and common name.
 - D. Label at least 1 tree and 1 shrub of each variety and caliper with a securely attached, waterproof tag bearing legible designation of botanical and common name.

13. SHADE AND FLOWERING TREES

- A. Shade Trees: Single-stem trees with straight trunk, well-balanced crown, and intact leader, of height and caliper indicated, conforming to ANSI Z60.1 for type of trees required.
 - 1. Branching Height: 1/3 to 1/2 of tree height.
 - B. Small Trees: Small upright or spreading type, branched or pruned naturally according to species and type, and with relationship of caliper, height, and branching recommended by ANSI Z60. 1, and stem form as follows:
 - 1. Form: Single stem.
 - C. Provide balled and burlapped trees.
 - D. Provide bare-root trees.
 - E. Provide balled and burlapped trees except where bare-root trees are indicated.
 - 1. Container-grown trees will be acceptable in lieu of balled and burlapped trees subject to meeting ANSI Z60.1 limitations for container stock.
-

14. BROADLEAF EVERGREENS

- A. Form and Size: Normal-quality, well-balanced, broadleaf evergreens, of type, height, spread, and shape required, conforming to, ANSI Z60. 1.
- B. Provide balled and burlapped broadleaf evergreens.
 - 1. Container-grown broadleaf evergreens will be acceptable in lieu of balled and burlapped broadleaf evergreens subject to meeting ANSI Z60.1 limitations for container stock.

15. GROUND COVERS AND PLANTS

- A. Provide ground covers and plants established and well rooted in removable containers or integral peat pots and with not less than the minimum number and length of runners required by ANSI Z60.1 for the pot size indicated.

16. GRASS MATERIALS

- A. Sod: Certified turfgrass sod complying with ASPA specifications for machine-cut thickness, size, strength, moisture content, and mowed height, and free of weeds and undesirable native grasses. Provide viable sod of uniform density, color, and texture or the following turfgrass species, strongly rooted, and capable of vigorous growth and development when planted.
 - 1. Species: Provide sod of grass species and varieties, proportions by weight, and minimum percentages or purity, germination, and maximum percentage of weed seed as indicated on Schedules at the end of this Section.

17. TOPSOIL

- A. Topsoil: ASTM D 5268, pH range of 5.5 to 7.4 percent organic material minimum, free of stones 1 inch (25 mm) or larger in any dimension, and other extraneous materials harmful to plant growth.
 - 1. Topsoil Source: Reuse surface soil stockpiled on the site. Verify suitability of surface soil to produce topsoil meeting requirements and amend which necessary. Supplement with imported topsoil
-

when quantities are insufficient. Clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful to plant growth.

2. Topsoil Source: Import topsoil from off-site sources. Obtain topsoil from naturally well drained sites where topsoil occurs at least 4 inches (100 mm) deep; do not obtain from bogs or marshes.
3. Topsoil Source: Amend existing surface soil to produce topsoil. Supplement with imported topsoil when required.

18. FERTILIZER

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast and slow release nitrogen, 50 percent derived from natural organic sources of urea-form, phosphorous, and potassium in the following composition:
 1. Composition: 1 lb per 1000 sq. ft. (0.5 kg per 100 sq. m) of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
 2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency.

19. MULCHES

- A. Organic Mulch: Organic mulch, free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:
 3. Type: Shredded Hard Wood

20. STAKES AND GUYS

- A. Upright and Guy Stakes: Rough-sawn, sound, new hardwood, redwood, or pressure preservative-treated softwood, free of knots, holes, cross grain, and other defects, 2 by 2 inches (50 by 50 mm) by length indicated, pointed at one end.
-

-
- B. Guy and Tie Wire: ASTM A 641 (ASTM A 641M), Class 1, galvanized-steel wire, 2-strand twisted, 0.106 inch (2.7 mm) in diameter.
 - C. Guy Cable: 5-strand, 3/16-inch(4.8-in) diameter, galvanized-steel cable, with zinc-coated turn buckles, 3 inch (75 mm) long minimum, with two 3/8 inch (10 mm) galvanized eyebolts.
 - D. Hose Chafing Guard: Reinforced rubber or plastic hose at least 1/2 inch (13 mm) in diameter, black, cut to lengths required to protect tree trunks from damage.
 - E. Flags: Standard surveyor's plastic flagging tape, white, 6 inches (150 mm) long.

21. LANDSCAPE EDGINGS

- A. Polyethylene Edging: Manufacturer's standard-grooved, base-black polyethylene edging, 1/10 inch (2.5 mm) thick by 5 inches (125 mm) deep, unless otherwise indicated, extruded in standard lengths, with 9-inch-(225-mm-) steel angle stakes.
 - 1. Top Profile: Straight, with top 2 inches (50 mm), 0.25 inch (6 mm) thick.
 - 2. Accessories: Manufacturer's standard connecting clips or plugs.

22. MISCELLANEOUS MATERIALS

- A. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's instructions.
- B. (ASTM A 36M) steel angle frames of shape, pattern, and size indicated.

23. EXAMINATION

- A. Examine areas to receive landscaping for compliance with requirements and for conditions affecting performance of work of this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.
-

24. PREPARATION

- A. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, and secure Landscape Architects acceptance before the start of planting work. Make minor adjustments; as may be required.

25. PLANTING SOIL PREPARATION

- A. Before mixing, clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful to plant growth.
- B. Mix soil amendments acid fertilizers with topsoil at ratios indicated. Delay mixing fertilizer if planting does not follow placing of planting soil within a few days.
 - 1. A "Planting Soil Amendments Schedule" is included at the end of this Section.
- C. For tree pit or trench backfill, mix planting soil before backfilling and stockpile at site.
- D. For planting beds and lawns, mix planting soil either prior to planting or apply on surface or topsoil and mix thoroughly before planting.
 - 1. Mix lime with dry soil prior to mixing fertilizer. Prevent lime from contacting roots or acid-tolerant plants.
 - 2. Apply phosphoric acid fertilizer, other than that already constituting a portion of complete fertilizers, directly to subgrade before applying planting soil and tilling.

26. LAWN PLANTING PREPARATION

- A. Limit subgrade preparation to areas that will be planted in the immediate future.
 - B. Loosen subgrade to a minimum depth of 4 inches (100 mm). Remove stones larger than 1-1/2 inches (38mm) in any dimension and sticks, roots, rubbish, and other extraneous materials.
-

-
- C. Spread planting soil mixture to depth required to meet thickness, grades, and elevations shown, after light rolling and nature settlement. Do not spread if planting soil or subgrade is frozen.
1. Place approximately 1/2 the thickness of planting soil mixture required. Work into top of loosened subgrade to create a transition layer and then place remainder of planting soil mixture.
 2. Allow for sod thickness in areas to be sodded.
- D. Preparation of Unchanged Grades: Where lawns are to be planted in areas unaltered or undisturbed by excavating, grading, or surface soil stripping operations, prepare soil as follows:
1. Remove and dispose of existing grass, vegetation, and turf. Do not turn over into soil being prepared for lawns.
 2. Till surface soil to a depth of at least 6 inches (150 mm). Apply required soil amendments and initial fertilizers and mix thoroughly into top 4 inches (100 mm) of soil. Trim high areas and fill in depressions. Till soil to a homogeneous mixture of fine texture.
 3. Clean surface soil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful to plant growth.
 4. Remove waste material, including grass, vegetation, and turf, and legally dispose of it off the Owner's property.
- E. Grade lawn and grass areas to a smooth, even surface with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit fine grading to areas that can be planted in the immediate future. Remove trash, debris, stones larger than 1-1/2 inches (38 mm) in any dimension, and other objects that may interfere with planting or maintenance operations.
- F. Moisten prepared lawn areas before planting when soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- G. Restore prepared areas eroded or otherwise disturbed after fine grading and before planting.

27. GROUND COVER AND PLANT BED PREPARATION

-
- A. Loosen subgrade of planting bed areas to a minimum depth of 6 inches (50 mm). Remove stones larger than 1-1/2 inches (38 mm) in any dimension and sticks, roots, rubbish, and other extraneous materials.
 - B. Spread planting soil mixture to depth required to meet thickness, grades, and elevations shown, after light rolling of planting soil mixture required. Work into top of loosened subgrade to create a transition layer and then place remainder of planting soil mixture.
 - C. Till soil in beds to a minimum depth of 8 inches (200 mm) and mix with specific soil amendments and fertilizers.
 - D. Remove soil to a minimum depth of 8 inches (200 mm) and replace with prepared planting soil mixture.

28. PLANTERS

- A. Planters: Place at least a 4-inch (100-mm) layer of gravel in bottom of planters, cover with nonwoven fabric, and fill with planter soil mixture. Place soil in lightly compacted layers to an elevation of 1-1/2 inches (38 mm) below top of planter, allowing natural settlement.
 - 1. Planter Soil Mixture: 1 part topsoil, 1-part coarse sand, 1 part peat humus, and 3 lb (1.4 kg) dolomitic limestone per cu. yd. (cu. m) of mix.

29. EXCAVATION FOR TREES AND SHRUBS

- A. Pits and Trenches: Excavate with vertical sides and with bottom of excavation, slightly raised at center to assist drainage. Loosen hard subsoil in bottom of excavation.
 - 1. Bare-Root Trees and Shrubs: Excavate at least 12 inches (300 mm) wider than root spread and deep enough to allow setting of roots on a layer of planting soil and with collar set same grade as in nursery, but 1 inch (25 mm) below finish grade, unless otherwise indicated.
 - a. Setting Layer: Allow 3 inches (75 mm) of planting soil.
-

-
2. Balled and Burlapped Trees and Shrubs: Excavate approximately 1-1/2 times as wide as ball diameter and equal to ball depth, plus the following setting layer depth:
 - a. Setting Layer: Allow 3 inches (75 mm) of planting soil.
 3. Container-Grown Trees and Shrubs: Excavate to container width and depth, plus the following setting layer depth:
 - a. Setting Layer: Allow 3 inches (75 mm) of planting soil.
 4. Where drain tile is shown or required under planted areas, excavate to top of porous backfill over tile.
- B. Dispose of subsoil removed from landscape excavations. Do not mix with planting soil or use as backfill.
- C. Obstructions: Notify Landscape Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.
 1. Hardpan Layer: Drill 6-inch- (150-mm-) diameter holes into free-draining strata or to a depth of 10 feet (3 m), whichever is less, and backfill with free-draining material.
- D. Drainage: Notify Landscape Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub pits.
- E. Fill excavations with water and allow to percolate out, before placing setting layer and positioning trees and shrubs.

30. PLANTING TREES AND SHRUBS

- A. Set balled and burlapped, stock plumb and in center of pit or trench with top of ball raised above adjacent finish grades as indicated.
 1. Place stock on setting layer of compacted planting soil.
 2. Remove burlap and wire baskets from tops or balls and partially from sides, but do not remove from under balls. Remove pallets, if
-

any, before setting. Do not use planting stock if ball cracked or broken before or during planting operation.

3. Place backfill around ball in layers, tamping to settle backfill and eliminate voids and air pockets. When pit is approximately 1/2 backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing and tamping final layer of backfill.

- B. Set container-grown stock plumb and in center of pit or trench with top or ball raised above adjacent finish grades as indicated.

1. Carefully remove containers so as not to damage root balls.
2. Place stock on setting layer of compacted planting soil.
3. Place backfill around ball in layers, tamping to settle backfill and eliminate voids and air pockets. When pit is approximately 1/2 backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing and tamping final layer of backfill.

- C. Set bare-root stock on cushion of planting soil. Spread roots without tangling or turning toward surface, and carefully work backfill around roots by hand. Puddle with water until backfill layers are completely saturated. Plumb before backfilling, and maintain plumb while working backfill around roots and placing layers above roots. Remove injured roots by cutting cleanly; do not break.

1. Set collar 1 inch (25 mm) below adjacent finish grades, unless otherwise indicated.

- D. Dish and tamp top of backfill to form a 3-inch- (75-mm-) high mound around the rim of the pit. Do not cover top of root ball with backfill.

31. TREE AND SHRUB PRUNING

- A. Prune, thin, and shape trees and shrubs as directed by Landscape Architect.
-

-
- B. Prune, thin, and shape trees and shrubs according to standard horticultural practice. Prune trees to retain required height and spread. Unless otherwise directed by Landscape Architect, do not cut trees leaders; remove only injured or dead branches from flowering trees. Prune shrubs to retain natural character. Shrub sizes indicated are size after pruning.

32. TREE AND SHRUB GUYING AND STAKING

- A. Upright Staking and Tying: Stake trees of 2- through 5-inch (50- through 125-mm) caliper. Stake trees of less than 2-inch (50-mm) caliper only as required to prevent wind tip-out. Use a minimum of 2 stakes of length required to penetrate at least 18 inches (450 mm) below bottom of backfilled excavation and to extend at least 72 inches (1800 mm) above grade. Set vertical stakes and space to avoid penetrating balls or root masses. Support trees with 2 strands of tie wire encased in hose sections at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree.
- B. Guying and Staking: Guy and stake trees exceeding 14 feet (4.2 in) and more than 3-inch (75-mm) caliper unless otherwise indicated. Securely attach no fewer than 3 guys to stakes 30 inches (760 mm) long, driven to grade. Attach flags to, each guy wire, 30 inches (760 mm) above finish grade.

33. PLANTING GROUND COVER AND PLANTS

- A. Space ground cover and plants as indicated.
- B. Space ground cover and plants not more than 24 inches (600 mm) apart.
- C. Dig holes large enough to allow spreading of roots, and backfill with planting soil. Work soil around roots to eliminate air pockets and leave a slight, saucer indentation around plants to hold water. Water thoroughly after planting; taking care not to cover plant crowns with wet soil.

34. MULCHING

- A. Mulch backfilled surfaces of pits, trenches, planted areas, and other indicated areas.
-

35. SOMING NEW LAWNS

- A. Lay sod within 24 hours of stripping.
- B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and, sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to subgrade or sod during installation. Tamp and roll lightly to ensure contact with subgrade, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
 - 1. Lay sod across angle of slopes exceeding 1:3.
 - 2. Anchor sod on slopes exceeding 1:6 with, wood pegs spaced as recommended by sod manufacturer but not less than 2 anchors per sod strip to prevent slippage.
- C. Saturate sod with fine water spray within 2 hours of planting. During first week, water daily or more frequently as necessary to maintain moist soil to, a minimum depth of 1-1/2 inches (38 mm) below the sod.

36. RECONDITIONING LAWNS

- A. Recondition existing lawn areas damaged by Contractor's operations, including storage of materials or equipment and movement of vehicles. Also recondition lawn areas where settlement or washouts occur or where minor regrading is required.
 - 1. Recondition other existing lawn areas.
 - B. Remove sod and vegetation from diseased or unsatisfactory lawn areas; do not bury into soil. Remove topsoil containing foreign materials resulting from Contractor's operations, including oil drippings, fuel spills, stone, gravel, and other construction materials, and replace with new topsoil.
 - C. Where substantial lawn remains, mow, dethatch, core aerate and rake. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use preemergence herbicides.
-

-
- D. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of it off the Owner's property.
 - E. Till stripped, bare, and compacted areas thoroughly to a depth of 6 inches (150 mm).
 - F. Apply required soil amendments and initial fertilizers and mix thoroughly into top 4 inches (100 mm) of soil. Provide new planting soil as required to, fill low spots and meet new finish grades.
 - G. Apply seed and protect, with straw mulch as required for new lawns.
 - H. Apply sod as required for new lawns.
 - I. Water newly planted areas and keep moist until new grass is established.

37. INSTALLATION OF EDGINGS

- A. Plastic Edging: Install plastic edging where indicated according to manufacturers recommendations. Anchor with steel stakes spaced approximately 24 inches (600 mm) apart, driven through upper base grooves of edging.

38. INSTALLATION OF MISCELLANEOUS MATERIALS

- A. Apply antidesiccant using power spray to provide an adequate film over trunks, branches, stems, twigs, and foliage.
 - 2. When deciduous trees or shrubs are moved in full-leaf, spray with antidesiccant at nursery before moving and again 2 weeks after planting.

39. CLEANUP AND PROTECTION

- A. During landscaping, keep pavements clean and work area in orderly condition.
 - B. Protect landscaping from damage due to landscape operations, operations by other contractors and trades, and trespassers. Maintain
-

protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.

40. DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of it off the Owner's property.

END OF SECTION 02900

DIVISION 3 - CONCRETE WORK

SECTION 03109 - ARCHITECTURAL CONCRETE FORMLINERS

PART 1 GENERAL

1.0 SECTION INCLUDES

- A. Provision of rigid plastic formliners for texturing architectural concrete.
- B. Provision of formliner accessories including, but not limited to, fasteners, sealants, rustication and backup strips, form release agents, and sealers.

2.0 RELATED SECTIONS

- A. Section 03300 – Cast-In-Place Concrete

3.0 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. ACI 117 Specifications for Tolerances for Concrete Construction and Materials and Commentary
 - 2. ACI 301 CH. 6 Specifications for Structural Concrete.
 - 3. ACI 303R Guide to Cast-in-Place Architectural Concrete Practice.
 - 4. ACI 309 CH. 7 Guide for Consolidation of Concrete.
 - 5. ACI 347 CH. 5 Guide to Formwork for Concrete
-

4.0 SUBMITTALS

- A. Manufacturer's installation instructions and Product Data which indicates compliance with specifications.
- B. Shop Drawings indicating formliner layout and termination details. Indicate backup, rustication, reveal, and chamfer strip locations. Include jointing, form tie location and pattern of placement.
- C. Architect/Engineer's review for aesthetic criteria. Contractor responsible for design of formwork and back-up of formliner for structural stability and sufficiency.
- D. Samples 12 inch by 12-inch of each pattern indicated.
- E. Compliance Certification by form release agent manufacturer for local regulations controlling VOC's.

5.0 QUALITY ASSURANCE

- A. Provide full scale mockup using actual job specific materials, methods, and workmanship. These include concrete mix [cement type, aggregate gradation, slump, water/cement ratios, plasticizers and additives], forming system [ties, formliner, and formwork], form release agents, placement rate, form pressures, joint sealing, vibrating and stripping practices. In addition, demonstrate patching and repair procedures for spalled concrete, and voids caused by honeycombing or bugholes. Incorporate formwork accessories and minimum one vertical and one horizontal formliner joint.
 - B. Accepted mockup will be standard by which remaining work will be evaluated for technical and aesthetic merit. Accepted mockup is a prerequisite prior to use of formliner. Submit variations from mockup materials or techniques for approval prior to use.
-

6.0 DELIVERY, STORAGE, AND HANDLING

- A. Cover formliners to protect from oil, dirt, and UV exposure.
- B. Handle rigid formliner panels with care at temperatures below 25°F.

PART 2 PART

2.01 MANUFACTURER

- A. Sika, St. Louis, MO. 1-800-325-9504.

2.02 FORMLINER MATERIALS

- A. Sika MULTI-CAST® polymer alloy sheets.
 - 1. Smooth Finish Multi-Cast Item/Pattern #340
 - 2. Shiplap Multi Cast Item/Pattern #357
- B. Formliners for Textured Finish Concrete: Provide special forming materials to produce form surfaces with face design, texture, arrangement, and configuration as shown on drawings.
- C. Formliners to accommodate form pressures to a maximum 1000 lb/ft². Comply with manufacturer's recommendations for support of large or deep patterns which may deform under pressure.

2.03 FORMLINER ACCESSORIES

- A. Provide Sika Greenstreak Form Release 8000 or equal, verified to be compatible with the formliner material.
- B. Sika Chamfer Triangle continuous PVC Strip with 1 inch leg.

PART 3 EXECUTION

3.01 FORMLINER PREPARATION

- A. Before placing concrete, verify lines and levels of formwork and formliner patterns are within allowable tolerances.
- B. On multiple-use grades, clean formliner before each use. Replace damaged formliner whose continued use or repair would negatively impact the aesthetics of the concrete finish.
- C. Apply Sika Greenstreak Form Release 8000 at rate recommended by manufacturer. Attempt to schedule concrete placement soon after application of form release agent to avoid precipitation, dust, and debris. Protect reinforcing steel from exposure to release agents.

3.02 FORMLINER INSTALLATION

- A. Seal formliner joints, rustication/chamfer joints, and tie holes to prevent cement paste from bleeding.
 - B. Provide solid backing at formliner joints where unsupported by formwork to prevent deflection.
 - C. Construct formliner and chamfers to sizes, shapes, lines and dimensions shown.
 - D. Provide openings, offsets, keyways, recesses, chamfers, blocking, and screeds as required to achieve architectural concrete textured finish.
 - E. Drill or pierce formliner to accommodate form ties.
 - F. Fasten formliner to formwork 12" to 24" on center. Increase spacing as necessary to accommodate form stripping pressures without damaging formliner intended for multiple use.
 - G. Install backup strips as required to prevent deflection of the formliner due to form pressures.
-

3.03 CONCRETE PLACEMENT

- A. Form pressures not to exceed 1000 psf.
- B. Keep concrete lifts less than 24 inches. Thoroughly vibrate concrete to achieve good consolidation and eliminate entrapped air thereby minimizing voids. Internally vibrate through to previous lift to avoid lift lines. Avoid vibrator contact with the formliner.
- C. Concrete temperatures in excess of 140°F will adversely affect the material properties of the formliners. Sika does not recommend the use of formliners in these applications.

3.04 FORMLINER ACCESSORY INSTALLATION

- A. When required, and as shown in exterior elevation drawings, create reveal lines by fastening Sika Rustication Strips to formwork within tolerances indicated by ACI.
- B. Tightly form corners indicated to be chamfered with Sika triangular PVC chamfer. Chamfered corners shall be smooth, solid, unbroken, continuous lines.

3.05 FORMLINER SEALER

- A. Apply Scofield Cureseal - W to all main building exterior elevations. Scofield sealer as manufactured by Sika and installed as per manufacturer's recommendations.

END OF SECTION 03109

DIVISION 3 - CONCRETE WORK

SECTION 03300 - CAST-IN-PLACE CONCRETE

1. GENERAL

A. RELATED DOCUMENTS

- 1) Drawings and general provisions of the Contract, including any General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

B. SUMMARY

- 1) This Section specifies cast-in place concrete, including formwork, reinforcing, mix design, placement procedures, and finishes.
- 2) Cast-in-place concrete includes the following:
 - a. Foundations and footings.
 - b. Concrete Slabs.
 - c. Foundation walls.
 - d. Slabs-on-grade.
 - e. Building frame members (columns, topping for filigree beams and slabs).
 - f. Stairs, landings, and lobby floors.
 - g. Equipment pads and bases.

C. SUBMITTALS

- 1) General: Submit the following according to Conditions of the Contract and Division 1 Specification Sections.
 - 2) Product data for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, waterstops, joint systems, curing compounds, dry-shake finish materials, and others if requested by Architect/Engineer.
 - 3) Shop drawings for reinforcement detailing fabricating, bending, and placing concrete reinforcement. Comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules, stirrup spacing, bent bar diagrams, and arrangement of concrete reinforcement. Include special reinforcing required for openings through concrete structures.
-

-
- 4) Shop drawings for formwork indicating fabrication and erection of forms for specific finished concrete surfaces. Show form construction including jointing, special form joints or reveals, location and pattern of form tie placement, and other items that affect exposed concrete visually.
 - a. Architect/Engineer's review is for general Architect/Engineer applications and features only. Designing formwork for structural stability and efficiency is Contractor's responsibility.
 - 5) Samples of materials as requested by Architect/Engineer, including names, sources, and descriptions, as follows:
 - a. Color finishes.
 - b. Normal weight aggregates.
 - c. Reglets.
 - d. Waterstops.
 - e. Vapor retarder/barrier.
 - f. Form liners.
 - 6) Laboratory test reports for concrete materials and mix design test.
 - 7) Material certificates in lieu of material laboratory test reports when permitted by Architect/Engineer. Material certificates shall be signed by manufacturer and Contractor, certifying that each material item complies with or exceeds specified requirements. Provide certification from admixture manufacturers that chloride content complies with specification requirements.
 - 8) Minutes of pre-installation conference.

D. QUALITY ASSURANCE

- 1) Codes and Standards: Comply with provisions of the latest edition of the following codes, specifications, and standards, except where more stringent requirements are shown or specified:
 - a. American Concrete Institute (ACI) 301, "Specifications for Structural Concrete for Buildings."
 - b. ACI 318, "Building Code Requirements for Structural Concrete".
 - c. ACI 347, "Recommended Practice for Concrete Formwork".
 - d. Concrete Reinforcing Steel Institute (CRSI) "Manual of Standard Practice."
-

-
- 2) Concrete Testing Service: Engage a testing agency acceptable to Architect/Engineer to perform material evaluation tests and to design concrete mixes.
 - 3) Materials and installed work may require testing and retesting at any time during progress of Work. Tests, including retesting of rejected materials for installed Work, shall be done at Contractor's expense.
 - 4) Mockup: Cast mockup of size indicated or as required to demonstrate typical joints, form tie spacing, and proposed surface finish, texture, and color. Maintain sample panel exposed to view for duration of Project, after Architect/Engineer's acceptance of visual qualities. Demolish mockup and remove from site when directed by Architect/Engineer.
 - 5) Pre-installation Conference: Conduct conference at Project site to comply with requirements of Division 1 Section "Project Meetings" and the following:
 - a. At least 30 days prior to submitting design mixes, conduct a meeting to review detailed requirements for preparing concrete design mixes and to determine procedures for satisfactory concrete operations. Review requirements for submittals, status of coordinating work, and availability of materials. Establish preliminary work progress schedule and procedures for materials inspection, testing, and certifications. Require representatives of each entity directly concerned with cast-in-place concrete to attend conference, including, but not limited to, the following:
 - 1) Contractor's superintendent.
 - 2) Agency responsible for concrete design mixes.
 - 3) Agency responsible for field quality control.
 - 4) Ready-mix concrete producer.
 - 5) Concrete subcontractor.
 - 6) Primary admixture manufacturers.
 - 6) For the purposes of this Specification, all concrete within the parking areas is considered to be "exposed to public view".
 - 7) The Contractor shall keep the following references at the project site:
 - a. ACI 301 (latest edition) "Specification for Structural Concrete for Buildings".
-

b. ACI 305R "Hot Weather Concreting".

2. PRODUCTS

A. FORM MATERIALS

- 1) Forms for Exposed Finish Concrete: Plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings.
 - a. Use plywood complying with U.S. Product Standard PS-1 "B-B (Concrete Form) Plywood," Class I, Exterior Grade or better, mill-oiled and edge-sealed, with each piece bearing legible inspection trademark.
 - 2) Forms for Unexposed Finish Concrete: Plywood, lumber, metal, or another acceptable material. Provide lumber dressed on at least two edges and one side for tight fit.
 - 3) Forms for Textured Finish Concrete: Units of face design, size, arrangement, and configuration to match Architect/Engineer's control sample. Provide solid backing and form supports to ensure stability of textured form liners.
 - 4) Pan-Type Forms: Glass-fiber-reinforced plastic or formed steel, stiffened to support weight of placed concrete without deformation.
 - 5) Carton Forms: Biodegradable paper surface, treated for moisture-resistance, structurally sufficient to support weight of plastic concrete and other superimposed loads.
 - 6) Form Release Agent: Provide commercial formulation form release agent with a maximum of 350 g/L volatile organic compounds (VOC's) that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
 - 7) Form Ties: Factory-fabricated, adjustable-length, removable or snap-off metal form ties designed to prevent form deflection and to prevent spalling of concrete upon removal. Provide units that will leave no metal closer than 1-1/2 inches to the plane of the exposed concrete surface. Provide ties that, when removed, will leave holes not larger than 1 inch in diameter in the concrete surface.
-

B. REINFORCING MATERIALS

- 1) Reinforcing Bars: ASTM A 615 Grade 60, deformed.
- 2) Galvanized Reinforcing Bars: ASTM A 767, Class II [2.0 oz. zinc psf], hot-dip galvanized after fabrication and bending.
- 3) Epoxy-Coated Reinforcing Bars: ASTM A 775.
- 4) Steel Wire: ASTM A 82, plain, cold-drawn steel.
- 5) Welded Wire Fabric: ASTM A 185, welded steel wire fabric.
- 6) Deformed-Steel Welded Wire Fabric: ASTM A 497.
- 7) Epoxy-Coated Welded Wire Fabric: ASTM A 884, Class A.
- 8) Supports for Reinforcement: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Use wire bar-type supports complying with CRSI specifications.
 - a. For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs.
 - b. For exposed-to-view concrete surfaces where legs of supports are in contact with forms, provide supports with legs that are protected by plastic (CRSI, Class 1) or stainless steel (CRSI, Class 2).

C. CONCRETE MATERIALS

1. Portland Cement: ASTM C 150, Type I. Use one brand of cement throughout Project unless otherwise acceptable to Architect/Engineer.
 2. Fly Ash: ASTM C 618, Type F.
 - a. Maximum loss on ignition: 3%
 - b. Maximum percent retained on #325 sieve: 28%
 - c. Maximum water requirement, stated as a percentage of control: 100%
 - d. Testing: ASTM C311
 - e. Percentage of fly ash in mix design shall be by weight. Water/cement ratio shall be calculated using total cement
-

-
- and fly ash content.
 - f. Fly ash will be permitted in caissons, footings, caisson caps, columns, walls and grade beams only.
 - 3. Normal-Weight Aggregates: ASTM C 33 and as specified. Provide aggregates from a single source for exposed concrete.
 - a. For exposed exterior surfaces, do not use fine or coarse aggregates that contain substances that cause spalling.
 - b. Local aggregates not complying with ASTM C 33 that have been shown to produce concrete of adequate strength and durability by special tests or actual service may be used when acceptable to Architect/Engineer.
 - 4. Lightweight Aggregates: ASTM C 330.
 - 5. Water: Potable.
 - 6. Admixtures, General: Provide concrete admixtures that contain not more than 0.05 percent chloride ions. Written certification of conformance to the following requirements and the chloride ion content of admixtures will be required from the manufacturer prior to mix design review by the Architect/Engineer.
 - 7. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:
 - a. Air-Tite, Cormix Construction Chemicals.
 - b. Air-Mix 2000 or AEA-92, Euclid Chemical Co.
 - c. Darex AEA or Daravair, W.R. Grace & Co.
 - d. MB-VR or Micro-Air, Master Builders, Inc.
 - e. Sealtight AEA, W.R. Meadows, Inc.
 - f. Sika AEA or AER, Sika Corp.
 - 8. Water-Reducing Admixture: ASTM C 494, Type A.
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:
 - a. Chemtard, ChemMasters Corp.
 - b. PSI N, Cormix Construction Chemicals.
-

-
- c. Eucon WR-75, 89 or 91, Euclid Chemical Co.
 - d. WRDA, W.R. Grace & Co.
 - e. Pozzolith Normal or Polyheed, Master Builders, Inc.
 - f. Metco W.R., Metalcrete Industries.
 - g. Prokrete-N, Prokrete Industries.
 - h. Plastocrete 161 or Plastiment NS, Sika Corp.
9. High-Range Water-Reducing Admixture: ASTM C 494, Type F or Type G.
1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:
- a. Super P, Anti-Hydro Co., Inc.
 - b. Cormix 200, Cormix Construction Chemicals.
 - c. Eucon 37, Euclid Chemical Co.
 - d. WRDA 19 or Daracem, W.R. Grace & Co.
 - e. Rheobuild or Polyheed, Master Builders, Inc.
 - f. Superslump, Metalcrete Industries.
 - g. PSPL, Prokrete Industries.
 - h. Sikament 300, Sika Corp.
10. Water-Reducing, Accelerating Admixture: ASTM C 494, Type E.
1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:
- a. Q-Set, Conspec Marketing & Manufacturing Co.
 - b. Lubricon NCA, Cormix Construction Chemicals.
 - c. Accelguard 80, Euclid Chemical Co.
 - d. Daraset, W.R. Grace & Co.
 - e. Pozzutec 20, Master Builders, Inc.
 - f. Accel-Set, Metalcrete Industries.
 - g. Plastocrete FL, Rapid I, Sika Corp.
11. Water-Reducing, Retarding Admixture: ASTM C 494, Type D.
1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:
- a. PSI-R Plus, Cormix Construction Chemicals.
 - b. Eucon Retarder 75, Euclid Chemical Co.
-

-
- c. Daratard-17, W.R. Grace & Co.
 - d. Pozzoloth R, Master Builders, Inc.
 - e. Protard, Prokrete Industries.
 - f. Plastiment, Sika Corporation.

12. Silica Fume:

- 1. Add 35 lb/cu.yd. of concrete for cast-in-place toppings and pourstrips. Use of dry silica fume product is not acceptable unless approved in writing by Architect/Engineer. Silica fume shall come from the same source throughout the project.
 - 2. Subject to compliance with requirements, provide one of the following:
 - a. Cormix EMSAC F-100 and Cormix F-90, Elkem Chemicals, Inc.
 - b. Force 10,000, W.R. Grace & Co.
 - c. Eucon MSA, Euclid Chemical Co.
 - d. Sikacrete 950DP, Sika Corp.
13. "D.C.I." by W.R. Grace Co. Three (3) gals/cu. yd. of concrete in all cast-in-place concrete.
- 1. The corrosion inhibitor shall comply with the following requirements:
 - a. The corrosion inhibitor shall contain 30 +/- 2 percent of calcium nitrite by weight.
 - b. Active corrosion shall be inhibited to 10 +/- 1 lbs of chlorides per cu. yd. of concrete at the rebar level.
 - c. The corrosion inhibitor shall have a minimum five (5) years of field history in similar projects.
 - d. Upon request, the manufacturer shall submit test method(s) which determines the plastic and hardened concentration of active component of the inhibitor.

D. RELATED MATERIALS

- 1) Reglets: Where sheet flashing or bituminous membranes are terminated in reglets, provide reglets of not less than 0.0217 inch thick galvanized sheet steel. Fill reglet or cover face opening to prevent intrusion of concrete or debris.
-

-
- 2) Dovetail Anchor Slots: Hot-dip galvanized sheet steel, not less than 0.0336 inch thick with bent tab anchors. Fill slot with temporary filler or cover face opening to prevent intrusion of concrete or debris. Space @ 2'-0" o.c., maximum where exterior cast-in-place walls and columns are to receive brick or stone veneer.
 - 3) Waterstops: Provide flat, dumbbell-type or center bulb-type waterstops at construction joints and other joints as indicated. Size to suit joints.
 - 4) Rubber Waterstops: Corps of Engineers CRD-C 513.
 - a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
 1. The Burke Co.
 2. Progress Unlimited.
 3. Williams Products, Inc.
 - b. Polyvinyl Chloride Waterstops: Corps of Engineers CRD-C 572.
 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
 - a. The Burke Co.
 - b. Greenstreak Plastic Products Co.
 - c. W.R. Meadows, Inc.
 - d. Progress Unlimited.
 - e. Schlegel Corp.
 - f. Vinylex Corp.
 - c. Sand Cushion: Clean, manufactured, or natural sand.
 - d. Vapor Retarder: Provide vapor retarder that is resistant to deterioration when tested according to ASTM E 154, as follows:
 1. Polyethylene sheet not less than 6 mils thick.
-

-
2. Water-resistant barrier consisting of heavy kraft papers laminated together with glass-fiber reinforcement and overcoated with black polyethylene on each side.
 - a. Product: Subject to compliance with requirements, provide Moistop by Fortifiber Corporation.
 - e. Vapor Barrier: Premolded seven-ply membrane consisting of reinforced core and carrier sheet with fortified bitumen layers, protective weathercoating, and plastic antistick sheet. Water vapor transmission rate of 1 perm when tested according to ASTM E 96, Method B. Provide manufacturer's recommended mastics and gusset tape.
 1. Product: Subject to compliance with requirements, provide Sealtight Premoulded Membrane by W.R. Meadows, Inc.
 - f. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd., complying with AASHTO M 182, Class 2.
 - g. Moisture-Retaining Cover: One of the following, complying with ASTM C 171.
 1. Waterproof paper.
 2. Polyethylene film.
 3. Polyethylene-coated burlap.
 - h. Liquid Membrane-Forming Curing Compound: Liquid-type membrane-forming curing compound complying with ASTM C 309, Type I, Class A. Moisture loss not more than 0.55 kg/sq. m when applied at 200 sq. ft./gal.
 1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:
 - a. A-H 3 Way Sealer, Anti-Hydro Co., Inc.
 - b. Spartan-Cote, The Burke Co.
 - c. Conspec #1, Conspec Marketing & Mfg. Co.
 - d. Sealco 309, Cormix Construction Chemicals.
 - e. Day-Chem Cure and Seal, Dayton Superior
-

-
- Corp.
 - f. Eucocure, Euclid Chemical Co.
 - g. Horn Clear Seal, A.C. Horn, Inc.
 - h. L&M Cure R, L&M Construction Chemicals, Inc.
 - i. Masterkure, Master Builders, Inc.
 - j. CS-309, W.R. Meadows, Inc.
 - k. Seal N Kure, Metalcrete Industries.
 - l. Kure-N-Seal, Sonneborn-Chemrex.
 - m. Stontop CS2, Stonhard, Inc.
 - i. Water-Based Acrylic Membrane Curing Compound: ASTM C 309, Type I, Class B.
 - 1. Provide material that has a maximum volatile organic compound (VOC) rating of 350 g/L.
 - 2. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:
 - a. Highseal, Conspec Marketing and Mfg. Co.
 - b. Sealco - VOC, Cormix Construction Chemicals.
 - c. Safe Cure and Seal, Dayton Superior Corp.
 - d. Aqua-Cure, Euclid Chemical Co.
 - e. Dress & Seal WB, L&M Construction Chemicals, Inc.
 - f. Masterkure 100W, Master Builders, Inc.
 - g. Vocomp-20, W.R. Meadows, Inc.
 - h. Metcure, Metalcrete Industries.
 - i. Stontop CS1, Stonhard, Inc.
 - 3. Must be compatible with traffic coatings (See Div. 7).
 - j. Evaporation Control: Monomolecular film-forming compound applied to exposed concrete slab surfaces for temporary protection from rapid moisture loss.
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:
 - a. Aquafilm, Conspec Marketing and Mfg. Co.
 - b. Eucobar, Euclid Chemical Co.
 - c. E-Con, L&M Construction Chemicals, Inc.
 - d. Confilm, Master Builders, Inc.
 - e. Waterhold, Metalcrete Industries.
-

-
- f. SikaFilm, Sika Corp.
 - k. Underlayment Compound: Free-flowing, self-leveling, pumpable, cement-based compound for applications from 1 inch thick to feathered edges.
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:
 - a. K-15, Ardex, Inc.
 - b. Self-Leveling Wear Topping, W.R. Bonsal Co.
 - c. Conflow, Conspec Marketing and Mfg. Co.
 - d. Corlevel, Cormix Construction Chemicals.
 - e. LevelLayer II, Dayton Superior Corp.
 - f. Flo-Top, Euclid Chemical Co.
 - g. Gyp-Crete, Gyp-Crete Corp.
 - h. Levelex, L&M Construction Chemicals, Inc.
 - i. Underlayment 110, Master Builders, Inc.
 - j. Stoncrete UL1, Stonhard, Inc.
 - k. Concrete Top, Symons Corp.
 - l. Thoro Underlayment Self-Leveling, Thoro System Products.
 - l. Bonding Agent: Polyvinyl acetate or acrylic base.
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:
 - a. Polyvinyl Acetate (Interior Only):
 - 1) Superior Concrete Bonder, Dayton Superior Corp.
 - 2) Euco Weld, Euclid Chemical Co.
 - 3) Weld-Crete, Larsen Products Corp.
 - 4) Everweld, L&M Construction Chemicals, Inc.
 - 5) Herculox, Metalcrete Industries.
 - 6) Ready Bond, Symons Corp.
 - b. Acrylic or Styrene Butadiene:
 - 1. Acrylic Bondcrete, The Burke Co.
 - 2. Strongbond, Conspec Marketing and Mfg. Co.
 - 3. Day-Chem Ad Bond, Dayton Superior
-

-
4. SBR Latex, Euclid Chemical Co.
 5. Daraweld C, W.R. Grace & Co.
 6. Hornweld, A.C. Horn, Inc.
 7. Everbond, L&M Construction Chemicals, Inc.
 8. Acryl-Set, Master Builders Inc.
 9. Intralok, W.R. Meadows, Inc.
 10. Acrylpave, Metalcrete Industries.
 11. Sonocrete, Sonneborn-Chemrex.
 12. Stonlock LB2, Stonhard, Inc.
 13. Strong Bond, Symons Corp.
 14. SikaLatex R, Sika Corp.
- m. Epoxy Adhesive: ASTM C 881, two-component material suitable for use on dry or damp surfaces. Provide material type, grade, and class to suit Project requirements.
1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:
 - a. Burke Epoxy M.V., The Burke Co.
 - b. Spec-Bond 100, Conspec Marketing and Mfg. Co.
 - c. Resi-Bond (J-58), Dayton Superior.
 - d. Euco Epoxy System #452 or #620, Euclid Chemical Co.
 - e. Epoxite Binder 2390, A.C. Horn, Inc.
 - f. Epabond, L&M Construction Chemicals, Inc.
 - g. Concrecive Standard Liquid, Master Builders, Inc.
 - h. Rezi-Weld 1000, W.R. Meadows, Inc.
 - i. Metco Hi-Mod Epoxy, Metalcrete Industries.
 - j. Sikadur 32 Hi-Mod, Sika Corp.
 - k. Stonset LV5, Stonhard, Inc.
 - l. R-600 Series, Symons Corp.
- n. Nails for post-tensioning anchors shall be stainless steel.
- o. Groover for tooled joints shall be Goldblat Tool Co. #06-314-M7.
- p. Joint filler for slabs and curbs, and to isolate slabs and columns:
-

-
1. Asphalt impregnated fiber board.
 - a. "Flexcell" by Celotex Corp.
 - b. "Fibre Expansion Joint" by W. R. Meadows, Inc.
 2. Joint filler to vertically isolate walls from columns or other walls:
 - a. White molded polystyrene beadboard.
 3. Joint cover for gap between columns and grade, retaining or basement walls:
 - a. "Sealtight Premolded Membrane Vaper Seal" by W.R. Meadows, Inc.
 - b. "Sealtight Melnar" by W.R.Meadows, Inc.
 4. See drawings for details and exact locations.

E. PROPORTIONING AND DESIGNING MIXES

- 1) Prepare design mixes for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301. For the trial batch method, use a CCRL approved, independent testing agency acceptable to Architect/Engineer for preparing and reporting proposed mix designs.
 - a. Do not use the same testing agency for field quality control testing.
 - b. Limit use of fly ash to not exceed 20 percent of cement content by weight.
 - c. Water-soluble chloride ion content of mix (including all constituents) shall not exceed 0.06% by weight for prestressed and post-tensioned concrete and 0.15% for conventionally reinforced concrete. Test method shall be AASHTO T260.
 - 2) Submit written reports to Architect/Engineer of each proposed mix for each class of concrete at least 15 days prior to start of Work. Do not begin concrete production until proposed mix designs have been reviewed by Architect/Engineer.
-

-
- a. Proportion mix designs as defined in ACI 301 Article 3.9. Mix shall be proportioned to minimize effects of thermal and drying shrinkage. Construction means and methods shall not adversely affect low volume change characteristics of mix design. Include following information for each concrete mix design:
- 1) Method used to determine proposed mix design, (ACI 301 Article 3.9).
 - 2) Gradation of fine and coarse aggregates.
 - 3) Proportions of all ingredients including all admixtures added either at time of batching or at job site.
 - 4) Water/cementitious materials ratio.
 - 5) Slump, ASTM C143.
 - 6) Certification of the chloride content of admixtures.
 - 7) Air Content:
 - a. Of freshly mixed concrete by pressure method, ASTM C231, or volumetric method, ASTM C173.
 - b. Of hardened concrete by microscopical determination, including parameters of air-void system, ASTM C457.
 - 8) Unit weight of concrete, ASTM C138.
 - 9) Strength at 7 and 28 days, ASTM C39.
 - 10) Design mixes to provide normal weight concrete with the properties as indicated on Drawings and schedules:
 - 11) Water-Cement Ratio: Provide concrete with maximum water-cement (W/C) ratios as indicated on Drawings.
 - 12) Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as indicated on Drawings.
 - 13) Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant, as accepted by Architect/Engineer. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Architect/Engineer before using in Work.
-

F. ADMIXTURES

- 1) Use water-reducing admixture (ASTM C494, Type A or D) or high-range water-reducing admixture (superplasticizer) (ASTM C494, Type F or G) in concrete, as required, for placement and workability.
- 2) Use non-corrosive, non-chloride accelerating admixture (ASTM C494, Type C or E) in concrete slabs placed at ambient temperatures below 50 deg F.
- 3) Use high-range water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs, Architect/Engineeral concrete, parking structure slabs, concrete required to be watertight, and concrete with water-cement ratios below 0.50.
- 4) Use air-entraining admixture per ASTM C260 in exterior exposed concrete unless otherwise indicated. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having total air content within the limits as shown on Drawings.
 - a. Hardened concrete shall have an air void spacing factor of .0080 in. maximum.
 - b. Other concrete not exposed to freezing, thawing, or hydraulic pressure, or to receive a surface hardener: 2 to 4 percent air.
- 5) Use admixtures for water reduction and set accelerating or retarding in strict compliance with manufacturer's directions.

G. CONCRETE MIXING

- 1) Job-Site Mixing: Mix concrete materials in appropriate drum-type batch machine mixer. For mixers of 1 cu. yd. or smaller capacity, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released. For mixers of capacity larger than 1 cu. yd., increase minimum 1-1/2 minutes of mixing time by 15 seconds for each additional 1 cu. yd. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mix type, mix time, quantity, and amount of water introduced.
 - 2) Ready-Mixed Concrete: Comply with requirements of ASTM C 94,
-

and as specified. When air temperature is between 85 deg F and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

3. EXECUTION

A. GENERAL

- 1) Coordinate the installation of joint materials, vapor retarder/barrier, and other related materials with placement of forms and reinforcing steel.

B. FORMS

- A. General: Design, erect, support, brace, and maintain formwork to support vertical, lateral, static, and dynamic loads that might be applied until concrete structure can support such loads. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation, and position. Maintain formwork construction tolerances and surface irregularities complying with the following ACI 347 limits:
 1. Provide Class A tolerances for concrete surfaces exposed to view.
 2. Provide Class C tolerances for other concrete surfaces.
 - B. Construct forms to sizes, shapes, lines, and dimensions shown and to obtain accurate alignment, location, grades, level, and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in the Work. Use selected materials to obtain required finishes. Solidly butt joints and provide backup at joints to prevent cement paste from leaking.
 - C. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like for easy removal.
 - D. Provide temporary openings for clean-outs and inspections where interior area of formwork is inaccessible before and during concrete placement. Securely brace temporary openings and set tightly to
-

forms to prevent losing concrete mortar. Locate temporary openings in forms at inconspicuous locations.

- E. Chamfer exposed corners and edges as indicated, using wood, metal, PVC, or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.
- F. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses, and chases from trades providing such items. Accurately place and securely support items built into forms.
- G. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, or other debris just before placing concrete. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

C. VAPOR RETARDER/BARRIER INSTALLATION

- 1) General: Place vapor retarder/barrier sheeting in position with longest dimension parallel with direction of pour.
- 2) Lap joints 6 inches and seal with manufacturer's recommended mastic or pressure-sensitive tape. Cover vapor retarder/barrier with sand cushion and compact to depth indicated.

D. PLACING REINFORCEMENT

- 1) General: Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars," for details and methods of reinforcement placement and supports and as specified. Avoid cutting or puncturing vapor retarder/barrier during reinforcement placement and concreting operations. Repair damages before placing concrete.
 - 2) Clean reinforcement of loose rust and mill scale, earth, ice, and other materials that reduce or destroy bond with concrete.
 - 3) Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as approved by Architect/Engineer.
 - 4) Place reinforcement to maintain minimum coverage as indicated for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete
-

placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

- 5) Install welded wire fabric in lengths as long as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.
- 6) Except where shown on the drawings, welding of reinforcement is prohibited unless approved in writing by Architect/Engineer.
- 7) Repair all epoxy coating damage from fabrication or placing prior to placing concrete. Use only repair material acceptable to manufacturer compatible with epoxy coating and inert in concrete.

E. JOINTS

- 1) Construction Joints: Locate and install construction joints so they do not impair strength or appearance of the structure, as acceptable to the Architect/Engineer.
 - 2) Provide keyways at least 1-1/2 inches deep in construction joints in walls and slabs and between walls and footings. Bulkheads designed and accepted for this purpose may be used for slabs.
 - 3) Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joints except as indicated otherwise. Do not continue reinforcement through sides of strip placements.
 - 4) Use bonding agent on existing concrete surfaces that will be joined with fresh concrete.
 - 5) Waterstops: Provide waterstops in construction joints as indicated. Install waterstops to form continuous diaphragm in each joint. Support and protect exposed waterstops during progress of Work. Field-fabricate joints in waterstops according to manufacturer's printed instructions.
 - 6) Isolation Joints in Slabs-on-Grade: Construct isolation joints in slabs-on-grade at points of contact between slabs-on-grade and vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated. Joint fillers and sealants are specified in Division 7 Section "Joint Sealants" and "Garage Waterproofing".
-

-
- 7) Contraction (Control) Joints in Slabs-on-Grade: Construct contraction joints in slabs-on-grade to form panels of patterns as shown. Use tooled joints $\frac{1}{8}$ inch wide by one-fourth of slab depth or inserts $\frac{1}{4}$ inch wide by one-fourth of slab depth, unless otherwise indicated. Saw cutting of joints is prohibited.
- a. If joint pattern is not shown, provide joints not exceeding 15 ft. in either direction and located to conform to bay spacing wherever possible (at column centerlines, half bays, third bays).
 - b. Joint fillers and sealants are specified in Division 7 Section "Joint Sealants" and "Garage Waterproofing".

F. INSTALLING EMBEDDED ITEMS

- 1) General: Set and build into formwork anchorage devices and other embedded items required for other work that is attached to or supported by cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached.
- 2) Install reglets to receive top edge of foundation sheet waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, relieving angles, and other conditions.
- 3) Install dovetail anchor slots in concrete structures as indicated on drawings.
- 4) Forms for Slabs: Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and contours in finished surfaces. Provide and secure units to support screed strips using strike-off templates or compacting-type screeds.

G. PREPARING FORM SURFACES

- 1) General: Coat contact surfaces of forms with an approved, non-residual, low-VOC, form-coating compound before placing reinforcement.
 - 2) Do not allow excess form-coating material to accumulate in forms or come into contact with in-place concrete surfaces against which fresh concrete will be placed. Apply according to manufacturer's instructions. Coat steel forms with a non-staining, rust-preventative material. Rust-stained steel formwork is not acceptable.
-

H. CONCRETE PLACEMENT

- 1) Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast in. Notify other trades to permit installation of their work.
 - 2) General: Comply with ACI 304, "Guide for Measuring, Mixing, Transporting, and Placing Concrete," and as specified.
 - 3) Deposit concrete continuously or in layers of such thickness that no new concrete will be placed on concrete that has hardened sufficiently to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation at its final location.
 - 4) Placing Concrete in Forms: Deposit concrete in forms in horizontal layers no deeper than 24 inches and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.
 - a. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures for consolidation of concrete complying with ACI 309.
 - b. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations no farther than the visible effectiveness of the machine. Place vibrators to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mix to segregate.
 - 5) Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until completing placement of a panel or section.
 - a. Consolidate concrete during placement operations so that concrete is thoroughly worked around reinforcement, other embedded items and into corners.
 - b. Bring slab surfaces to correct level with a straightedge and strike off. Use bull floats or darbies to smooth surface free of
-

-
- humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.
 - c. Maintain reinforcing in proper position on chairs during concrete placement.

6) Hot-Weather Placement: When hot weather conditions exist that would impair quality and strength of concrete, place concrete complying with ACI 305 and as specified.

- a. Cool ingredients before mixing to maintain concrete temperature at time of placement to below 90 deg F. Mixing water may be chilled or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
- b. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedding in concrete.
- c. Fog spray forms, reinforcing steel, and sub-grade just before placing concrete. Keep sub-grade moisture uniform without puddles or dry areas.
- d. Use water-reducing retarding admixture when required by high temperatures, low humidity, or other adverse placing conditions, as acceptable to Architect/Engineer.
- e. Engineer will strictly enforce all requirements of ACI 305R.

I. FINISHING FORMED SURFACES

- 1) Rough-Formed Finish: Provide a rough-formed finish on formed concrete surfaces not exposed to view in the finished Work or concealed by other construction. This is the concrete surface having texture imparted by form-facing material used, with tie holes and a defective area repaired and patched, and fins and other projections exceeding 1/4 inch in height rubbed down or chipped off.
 - 2) Smooth-Formed Finish: Provide a smooth-formed finish on formed concrete surfaces exposed to view or to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, damp proofing, veneer plaster, painting, or another similar system. This is an as-cast concrete surface obtained with selected form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch defective areas with fins and other projections completely removed and smoothed.
-

-
- 3) Smooth-Rubbed Finish: Provide smooth-rubbed finish on scheduled concrete surfaces that have received smooth-formed finish treatment not later than 1 day after form removal. Moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
 - 4) Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike-off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

J. MONOLITHIC SLAB FINISHES

- 1) Finish for flatwork in parking and drive areas.
 - a. Bullfloat immediately after screeding. Complete before any excess moisture or bleed water is present on surface (ACI 302.1R, Article 7.2.3).
 - b. After excess moisture or bleed water has disappeared and concrete has stiffened sufficiently to allow operation, give slab surface a coarse broom transverse scored texture by drawing fiber bristle broom across surface perpendicular to main traffic route. Texture shall be as accepted by Architect/Engineer from sample panels. Coordinate with Traffic Topping manufacturer and applicator as to acceptability.
 - c. Finishing Tolerance: ACI 301, Paragraph 11.9: Class B tolerance. In addition, floor surface shall not vary more than $\pm 3/4$ " from elevation noted on Drawings.
 - d. Before installation of flatwork and after submittal, review, and approval of concrete mix design, Contractor shall fabricate one or more acceptable test panels simulating finishing techniques and final appearance to be expected and used on Project. Test panels shall be minimum of 15 ft. in area cast to thickness of typical parking and drive area wearing surface in Project. (Maximum thickness of test panels need not exceed 6 inches.) Test panels shall be cast from concrete supplied by similar concrete batch used for this project. Contractor shall finish panels following requirements of items 1,2 and 3 above. Finished panels may be rejected by Architect/Engineer, in which case, Contractor shall repeat procedure until Architect/Engineer's acceptance is obtained.
-

Accepted test panels shall be cured in accordance with specifications and may be incorporated into Project. Accepted test panels shall serve as basis for acceptance/rejection of final finished surfaces of all flatwork.

- e. Finish all concrete slabs to proper elevations to ensure that all surface water will drain freely to floor drains, and that no puddle areas exist. Contractor shall bear cost of any corrections to provide for this positive drainage requirement.
 - 2) Scratch Finish: Apply scratch finish to monolithic slab surfaces to receive concrete floor topping or mortar setting beds for tile, Portland cement terrazzo, and other bonded applied cementitious finish flooring material, and where indicated. After placing slabs, finish surface to tolerances of F(F) 15 (floor flatness) and F(L) 13 (floor levelness) measured according to ASTM E 1155. Slope surfaces uniformly to drains where required. After leveling, roughen surface before final set with stiff brushes, brooms, or rakes.
 - 3) Float Finish: Apply float finish to monolithic slab surfaces to receive trowel finish and other finishes as specified; slab surfaces to be covered with membrane or elastic waterproofing, membrane or elastic roofing, or sand-bed terrazzo; and where indicated. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating, using float blades or float shoes only, when surface water has disappeared, or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats or by hand-floating if area is small or inaccessible to power units. Finish surfaces to tolerances of F(F) 18 (floor flatness) and F(L) 15 (floor levelness) measured according to ASTM E 1155. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.
 - 4) Trowel Finish: Apply a trowel finish to monolithic slab surfaces exposed to view and slab surfaces to be covered with resilient flooring, carpet, ceramic or quarry tile, paint, or another thin film-finish coating system. After floating, begin first trowel-finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and finish surfaces to tolerances of F(F) 20 (floor flatness) and F(L) 17 (floor levelness) measured according to ASTM E 1155. Grind smooth any surface defects that would telegraph through applied floor
-

covering system.

- 5) Trowel and Fine Broom Finish: Where ceramic or quarry tile is to be installed with thin-set mortar, apply a trowel finish as specified, then immediately follow by slightly scarifying the surface with a fine broom.

K. MISCELLANEOUS CONCRETE ITEMS

- 1) Filling In: Fill in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place, and cure concrete as specified to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete Work.
- 2) Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- 3) Equipment Bases and Foundations: Provide machine and equipment bases and foundations as shown on drawings. Set anchor bolts for machines and equipment to template at correct elevations, complying with diagrams or templates of manufacturer furnishing machines and equipment.
- 4) Steel Pan Stairs: Provide concrete fill for steel pan stair treads, landings, and associated items. Cast-in safety inserts and accessories as shown on drawings. Screed, tamp, and trowel-finish concrete surfaces.

L. CONCRETE CURING AND PROTECTION

- 1) General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. In hot, dry, and windy weather protect concrete from rapid moisture loss before and during finishing operations with an evaporation-control material. Apply according to manufacturer's instructions after screeding and bull floating, but before power floating and troweling.
 - 2) Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days.
-

-
- 3) Curing Methods: Cure concrete by curing compound, by moist curing, by moisture-retaining cover curing, or by combining these methods, as specified.
 - 4) Provide moisture curing by the following methods:
 - a. Keep concrete surface continuously wet by covering with water.
 - b. Use continuous water-fog spray.
 - c. Cover concrete surface with specified absorptive cover, thoroughly saturate cover with water, and keep continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with a 4-inch lap over adjacent absorptive covers.
 - d. Minimum moist condition: 7 days for post-tensioned concrete, 3 days for conventionally reinforce concrete.
 - 5) Provide moisture-retaining cover curing as follows:
 - a. Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3 inches and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 - b. Minimum moist condition: 7 days for post-tensioned concrete, 3 days for conventionally reinforce concrete.
 - 6) Apply curing compound on exposed interior slabs and on exterior slabs, walks, and curbs as follows:
 - a. Apply curing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours and after surface water sheen has disappeared). Apply uniformly in continuous operation by power spray or roller according to manufacturer's directions. Recoat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.
 - b. Use membrane curing compounds that will not affect surfaces to be covered with finish materials applied directly to concrete.
 - c. Curing compound must be compatible with Traffic Coating.
 - d. Use of curing compound prohibited in silica fume concrete.
 - 7) Curing Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces, by moist curing with forms in place for the full curing period or until
-

forms are removed. If forms are removed, continue curing by methods specified above, as applicable.

- 8) Curing Unformed Surfaces: Cure unformed surfaces, including slabs, floor topping, and other flat surfaces, by applying the appropriate curing method. Final cure concrete surfaces to receive finish flooring with a moisture-retaining cover, unless otherwise directed.

M. SHORES AND SUPPORTS

- 1) General: Comply with ACI 347 for shoring and reshoring in multistory construction, and as specified.
 - 2) Extend shoring from ground to roof for structures four stories or less, unless otherwise permitted.
 - 3) Extend shoring as required, but no less than three floors under floor or roof being placed. Shore floor directly under floor or roof being placed, so that loads from construction above will transfer directly to these shores. Space shoring in stories below this level in such a manner that no floor or member will be excessively loaded or will induce tensile stress in concrete members where no reinforcing steel is provided. Extend shores beyond minimums to ensure proper distribution of loads throughout structure.
 - 4) Remove shores and reshore in a planned sequence to avoid damage to partially cured concrete. Locate and provide adequate shoring to support work without excessive stress or deflection.
 - 5) Keep shores in place a minimum of 15 days after placing upper tier, or longer, if required, until concrete has attained its required 28-day strength and heavy loads due to construction operations have been removed.
 - 6) Co-ordinate shoring and reshoring sequence with post-tensioning system.
 - 7) Nail Ellis clamps, if used with wood shores, to shores with minimum of two nails to prevent slippage using stainless steel nails.
 - 8) Wedge shall be hardwood or steel. Softwood wedges are prohibited.
-

N. REMOVING FORMS

- 1) General: Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form-removal operations, and provided curing and protection operations are maintained.
- 2) Formwork supporting weight of concrete, such as beam soffits, joists, slabs, and other structural elements, may not be removed in less than 14 days or until concrete has attained at least 75 percent of design minimum compressive strength at 28 days. Determine potential compressive strength of in-place concrete by testing field-cured specimens, representative of concrete location or members.
- 3) Form-facing material may be removed 4 days after placement only if shores and other vertical supports have been arranged to permit removal of form-facing material without loosening or disturbing shores and supports.

O. REUSING FORMS

- 1) Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-coating compound as specified for new formwork.
- 2) When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use patched forms for exposed concrete surfaces except as acceptable to Architect/Engineer.

P. CONCRETE SURFACE REPAIRS

- 1) Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removing forms, when acceptable to Architect/Engineer.
 - 2) Mix dry-pack mortar, consisting of one part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing.
 - a. Cut out honeycombs, rock pockets, voids over 1/4 inch in any dimension, and holes left by tie rods and bolts down to
-

solid concrete but in no case to a depth less than 1 inch. Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water, and brush-coat the area to be patched with bonding agent. Place patching mortar before bonding agent has dried.

- b. For surfaces exposed to view, blend white Portland cement and standard Portland cement so that, when dry, patching mortar will match surrounding color. Provide test areas at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.

- 3) **Repairing Formed Surfaces:** Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Architect/Engineer. Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning. Flush out form tie holes and fill with dry-pack mortar or precast cement cone plugs secured in place with bonding agent. Repair concealed formed surfaces where possible, containing defects that affect the concrete's durability. If defects cannot be repaired, remove and replace the concrete.

- 4) **Repairing Unformed Surfaces:** Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface tolerances specified for each surface and finish. Correct low and high areas as specified. Test unformed surfaces sloped to drain for trueness of slope and smoothness by using a template having the required slope.

- a. Repair finished unformed surfaces containing defects that affect the concrete's durability. Surface defects include crazing and cracks in excess of 0.01 inch wide or that penetrate to the reinforcement or completely through unreinforced sections regardless of width, spalling, popouts, honeycombs, rock pockets, and other objectionable conditions.
 - b. Correct high areas in unformed surfaces by grinding after concrete has cured at least 14 days.
 - c. Correct low areas in unformed surfaces during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete. Proprietary underlayment compounds may be used when acceptable to Architect/Engineer.
-

-
- d. Repair defective areas, except random cracks and single holes not exceeding 1 inch in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose reinforcing steel with at least 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
- 5) Repair isolated random cracks and single holes 1 inch or less in diameter by dry-pack method. Groove top of cracks and cut out holes to sound concrete and clean of dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Place dry pack before bonding agent has dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
 - 6) Perform structural repairs with prior approval of Architect/Engineer for method and procedure, using specified epoxy adhesive and mortar.
 - 7) Repair methods not specified above may be used, subject to acceptance of Architect/Engineer.

Q. QUALITY CONTROL TESTING DURING CONSTRUCTION

- 1) General: The Owner will employ an approved testing agency to perform tests and to submit test reports. All field inspectors must be ACI Level I certified, and lab technicians must be Level II certified.
 - 2) Sampling and testing for quality control during concrete placement may include the following, as directed by Architect/Engineer.
 - a. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.
 - 1) Slump: ASTM C 143; one test at point of placement for each truck of concrete; reduce frequency of tests when test results seem to be consistent and acceptable.
 - 2) Air Content: ASTM C 173, volumetric method for lightweight or normal weight concrete; ASTM C 231, pressure method for normal weight concrete; one for
-

each truck of air-entrained concrete; reduce frequency of tests when test results seem to be consistent and acceptable.

- 3) Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 80 deg F and above, and one test for each set of compressive-strength specimens.
 - 4) Compression Test Specimen: ASTM C 31; one set of minimum eight cylinders, 6 field-cured and 2 lab-cured for P/T concrete, minimum four standard cylinders for others, for each compressive-strength test. Mold and store cylinders for laboratory-cured test specimens for 28-day strength testing. Field-cured cylinders shall be maintained at the site under conditions identical to concrete represented by them.
 - 5) Compressive-Strength Tests: ASTM C 39; one set for each day's pour exceeding 5 cu. yd. plus additional sets for each 50-cu. yd. more than the first 25 cu. yd. of each concrete class placed in any one day; one specimen tested prior to P/T tendon stressing or at 7 days as the project requires, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.
 - 6) Proper protection of all cylinders per ASTM C 31 is the total responsibility of the contractor purchasing the tested concrete.
-
- b. When frequency of testing will provide fewer than five strength tests for a given class of concrete, conduct testing, from at least five randomly selected batches or from each batch if fewer than five are used.
 - c. When total quantity of a given class of concrete is less than 50 cu. yd., Architect/Engineer may waive strength testing if adequate evidence of satisfactory strength is provided.
 - d. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
 - e. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength and no
-

individual strength test result falls below specified compressive strength by more than 500 psi.

- 3) Test results of concrete sampled according to ASTM C 31 will be reported in writing to Architect/Engineer, Structural Engineer, ready-mix producer, and Contractor within 24 hours after tests. Reports of compressive strength tests shall contain the Project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-day tests and 28-day tests.
- 4) Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.
- 5) Additional Tests: The testing agency will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Architect/Engineer. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed.
- 6) Acceptance of completed concrete work shall be per ACI 301, Chapter 18.

END OF SECTION 03300

DIVISION 4 - MASONRY

SECTION 04200 - CONCRETE UNIT MASONRY

1. GENERAL

A Description of Work

- 1) Contract Document conditions and requirements will govern this work.
 - 2) Furnish all labor, materials, and equipment necessary to complete the Masonry Work as indicated, specified, and required including but not limited to the following:
 - a. The supply and erection of all concrete block work, including mortar and grout materials, reinforced precast concrete lintels and sills, bond beams, reglets, control joints and pre-molded joint filler.
 - b. The supply and erection of all concrete block work and reinforcing.
 - c. The supply and installation of rough hardware for masonry including anchors, bolts, sleeves, ties and reinforcements.
 - d. Build into the work all anchors, bolts, etc., supplied by others.
 - e. Building into the masonry items supplied by other trades such as door and window frames, louvers, grilles, pipe sleeves and openings, heating, plumbing, electrical and ventilating equipment penetrations, expansion joints, flashing, loose steel lintels, etc.
 - f. Grouting of masonry work, where required and as detailed.
 - g. Cutting and patching of existing and new masonry work.
 - h. Staging and temporary bracing.
 - i. The transporting, unloading and storage of unit masonry, mortar and grout materials and reinforcements.
-

j. Cleaning masonry.

3) Related Work Specified Elsewhere:

- a. Moisture Proofing (sealing, caulking, flashing): Division 7
- b. Wall Finishes Including Painting: Division 9
- c. Concrete Work: Division 3
- d. Miscellaneous Metals: Division 5

B. Quality Assurance

1) Standards: Comply with recommendations of the National Concrete Masonry Association, the Brick Institute of American (BIA formerly SCPI), the requirements of the state, commonwealth, or province Uniform Construction Code in effect where the project is being carried out, the 1997 Uniform Building Code and the following standards and specifications:

- a. American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, PA 19103. (latest versions)

ASTM A116	Standard Specification for Metallic Coated, Steel Woven Wire-fence Fabric
-----------	---

ASTM A123	Standard Specification for Zinc (Hot-Dipped Galvanized) Coatings on Iron and Steel Products
-----------	---

ASTM A185	Standard Specification for Welded for Steel Welded Wire Reinforcement Plain, for Concrete
-----------	---

ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
-----------	--

ASTM A653	Standard Specification for Steel Sheet Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanealed) by the Hot-Dip Process
-----------	--

ASTM A1011	Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement Plain and Deformed, for Concrete
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C55	Standard Specification for Concrete Building Brick
ASTM C62	Standard Specification for Building Brick (Solid Masonry Units Made from Clay or Shale)
ASTM C90	Standard Specification for Load Bearing Concrete Masonry Units
ASTM C91	Standard Specification for Masonry Concrete
ASTM C129	Standard Specification for Non-Load Bearing Concrete Masonry Units
ASTM C140	Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C207	Standard Specification for Hydrated Lime for Masonry Purposes

ASTM C216	Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)
ASTM C270	Standard Specification for Mortar for Unit Masonry
ASTM C272	Standard Test Method for Water Absorption of Core Materials for Sandwich Constructions
ASTM C331	Standard Specification for Lightweight Aggregate for Concrete Masonry Units
ASTM C426	Standard Test Method for Linear Drying Shrinkage of Concrete Masonry Units
ASTM C476	Standard Specification for Grout for Masonry
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C516	Standard Specification for Vermiculite Loose Fill Thermal Insulation
ASTM C578	Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
ASTM E90	Standard Specification for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements

b. American Concrete Institute

ACI-530	Building Code Requirements for Masonry Structures
ACI-530.1	Specification for Masonry Structures

-
- | | | |
|----|-------|---|
| c. | IMIAC | International Masonry Industry All-Weather Council: Recommended Practices and Guide Specification for Cold Weather Masonry Construction |
|----|-------|---|

C. Submittals

- 1) Samples: Prior to installation, submit for approval, samples for each different masonry unit, accessory, and mortar. Show full range of color and texture of masonry units to be used.
- 2) Manufacturer's Data: Prior to installation, submit two (2) copies of the manufacturer's specifications and other data for each type of masonry unit and accessory required including certification that each type complies with the specified requirements.
- 3) Detail Drawings for Special Masonry Work: Submit for approval detail drawings indicating layout of Masonry Work, wherever special Masonry Units and special configurations (other than standard straight line and ninety [90] degree work) are required in the Masonry Work.

D. Product Delivery, Storage, and Handling

- 1) Delivery and Storage: All material shall be delivered, stored and handled in a manner that will prevent damage to structures, inclusion of foreign materials, and damage to materials by water or breakage. Packaged materials shall be delivered and stored in original packages until ready for use. Packages and materials showing evidence of water or other damage shall be rejected. Material shall be stored on planks blocked up, at least eight inches (8") above ground, properly covered with waterproof tarpaulins to protect them from moisture and allowing air to circulate around masonry units. Cementitious materials shall be stored in dry, weather tight, ventilated spaces. Sand shall be stored on plank platforms, maintained in a manner that will afford good drainage and prevent inclusion of foreign materials.
 - 2) Continuity: Arrange deliveries to provide sufficient quantities for continuity of any phase of work. Do not change suppliers or approved brands without specific approval.
-

E. Job Conditions

- 1) Protect partially completed masonry against weather, when work is not in progress, by covering tops of walls with strong, waterproof, non-staining membrane. Extend membrane at least two feet (2') down both sides of walls and anchor securely in place.
- 2) Comply with the Recommendations for Cold and Hot Weather Masonry Construction of BIA, NCMA and IMIAC.
- 3) Coordination: Installer must review installation procedures and coordination with other work with the General Contractor and other contractors and subcontractors whose work must be coordinated with the masonry work such as specific requirements relating to placement of inserts and flashing that will be built into the masonry work.
- 4) Keep masonry units dry prior to installation.

2. PRODUCTS

A. Concrete Masonry Units (CMU) as manufactured by Bloques Vega Baja, Empresas NIDCO, PR Road #155, km 62, Pugnado Ward, Vega Baja, Puerto Rico.

- 1) General: Blocks shall be uniform in size and shape and shall have a fine textured and reasonably smooth face. Corner, bull nose, jamb, and beam blocks, lintel blocks and other special units shall be provided as required for details shown on the drawings or to meet job conditions.
 - 2) Concrete Masonry Units (Hollow ASTM C90): Grade N, Type 1 (moisture-controlled), crushed aggregate ASTM C33 for normal weight units nominal face size eight inches by sixteen inches (8"x16") or eighteen inch (18"), width as indicated.
 - 3) Concrete Masonry Units (Solid ASTM C62 and C216): Grade N, Type 1, (moisture-controlled), crushed aggregate ASTM C33 for normal weight units, nominal face size eight inches by sixteen inches (8"x16") or eighteen inch (18"), width as shown (use, where indicated for heavy load bearing walls).
 - 4) 2 hours fire rated Concrete Masonry Units, Classification D-2.
-

B. Mortar

- 1) Portland Cement: ASTM C150, Type 1, non-staining, no air entrainment, white, if needed for color match.
- 2) Lime: Hydrated lime, ASTM C207, Type S.
- 3) Sand: ASTM C144.
- 4) Water for Mortar: Shall be clean and free from deleterious amounts of acids, alkaline, or organic materials.
- 5) Waterproofing: Integral waterproofing equal to "Hydrocide Powder" by Sonneborne. Add integral waterproofing to mortar used in exterior walls. Manufacturer's recommendations shall be followed.
- 6) Masonry Cement for Mortar: ASTM Designation C90, approved equal to Brixment, Huron, LeHigh, Atlas (waterproofing included).
- 7) Color of Mortar: Match mortar to existing building.
- 8) Mixes:
 - a) Masonry Mortar, Exterior (except as otherwise indicated): ASTM C270, Type S; approximately three to one to eleven (3:1:11) Portland cement, lime, sand.
 - b) Masonry Mortar, Interior (except as otherwise indicated): ASTM C270, Type N; approximately three to two to fourteen (3:2:14) Portland cement, lime, sand.
- 9) Use same materials and mixing sequence throughout job.
- 10) Retemper within one half (1/2) hour but not at all for colored mortar.

C. Masonry Grout

- 1) Coarse grout conforming to ASTM C476.
- 1) Slump to be eight inches (8") to eleven inches (11").

D. Reinforcing

- 1) Continuous Masonry Wire Reinforcing Ladder design, nine (9) gauge welded steel wire with one and five tenths (1.5) ounces per
-

square foot hot-dip zinc coating (after fabrication) for exterior walls, mill-galvanized wire for interior walls, width one and one-half inches (1-1/2") to two (2") less than the wall thickness. Wherever inside backup wythe of exterior wall is CMU, provide wire located for proper embedment at internal face shell of CMU. Provide units prefabricated in straight lengths of not less than ten feet (10'), with matching corner and tee units. Fabricate from cold-drawn steel wire complying with ASTM A82, with deformed continuous side rods and plain cross-rods, crimped where cavity wall construction occurs.

- 2) Reinforcing Bars: ASTM A615, Grade 60.

E. Expansion Joints

- 1) Bond Breaker Strips: Fifteen (15) pound asphalt roofing felt complying with ASTM D226 (at expansion joints and above foundation wall, except as otherwise indicated).

F. Miscellaneous Masonry Anchors

- 1) Concrete and Masonry: Where masonry walls abut any of these materials the masonry subcontractor shall furnish and install galvanized sixteen (16) gauge corrugated steel wall ties seven-eighths inches (7/8") wide. Wall ties shall be securely fastened to existing concrete or masonry, with appropriate fasteners, as approved, located horizontally and vertically two feet (2') on center maximum. Ties shall be long enough to extend a minimum of three inches (3") into full mortar joint (fill hollow cells to provide full mortar coverage).
- 2) Steel Columns: Where masonry walls abut steel columns, the masonry contractor shall furnish and install Hohmann & Barnard Weld-On Ties #359 manufactured from one-quarter inch (1/4") diameter galvanized wire, and Vee Wall Ties manufactured from three-sixteenths inch (3/16") galvanized wire, or equal products as approved. Weld #359 ties two feet (2') on center vertically to columns and install Vee Wall Ties every two feet (2') vertically. Vee Wall Ties shall be long enough to extend a minimum of three inches (3") into full mortar joint (fill hollow cells to provide full mortar coverage).

3. EXECUTION

A. Installation

-
- 1) Install (lay) masonry units, in the bond pattern and other special configurations as indicated. (*Bond pattern shall match existing adjacent work except as specifically indicated otherwise).
 - 2) Cut exposed masonry units, where necessary, with a power saw. Avoid the use (by proper layout) of less-than-half-size units.
 - 3) Special Shapes: Provide where shown and where required for lintels, corners, jambs, sash, control joints, headers, bonding, and other special conditions.
 - 4) Do not wet CMU.
 - 5) Bond intersecting walls with masonry units or provide approved anchors spaced two feet (2'-0") on center maximum.
 - 6) Hold uniform joint sizes to match existing walls, or if not required, hold three-eighths inch (3/8") joint sizes.
 - 7) Cut joints flush and tool slightly concave, unless otherwise indicated. Joints not exposed to view need not be tooled.
 - 8) Mix Mortar ingredients for a minimum of five (5) minutes in a mechanical batch mixer. Do not use mortar which has begun to set, or if more than two and one-half (2 1/2) hours has elapsed since initial mixing. No mortar which has attained its initial set shall be re-tempered in any way.
 - 9) Lay hollow concrete masonry units with full mortar coverage on horizontal and vertical face shells; also bed webs in mortar in starting course on footings and foundation walls, and in all courses of piers, columns, and pilasters, and where adjacent to cells or cavities to be reinforced or to be filled with concrete or grout.
 - 10) Remove masonry units disturbed after laying, clean and reset in fresh mortar. Do not pound corners at jambs to fit stretcher units which have been set in position. If adjustments are required, remove units, clean off mortar, and reset in fresh mortar.
 - 11) Reinforce horizontal joints with continuous masonry wire reinforcing, spaced sixteen inches (16") vertically (except spaced eight inches [8"] in first twenty-four inches [24"] immediately above and below openings for a distance of a minimum of two feet [2'] beyond opening). Do not bridge control and expansion joints in the wall system.
-

-
- 12) Anchor ends of walls to structure with anchors spaced two feet (2'-0") maximum, except as otherwise shown.
 - 13) Joints around the perimeter of exterior door frames or other wall openings shall be not less than one-quarter inch (1/4") nor more than three-eighths inch (3/8") wide and shall be cleaned out to a uniform depth of at least three-quarters inch (3/4") and left ready for sealant. Sealant compound and application shall be supplied and placed by the sealant subcontractor as specified in Division 7.
 - 14) Provide recesses for built-in openings in walls for mechanical equipment which will be furnished and set by others. Openings, recesses, etc. shall be made from approved shop drawings of the equipment.
 - 15) Any pointing of joints as may be necessary will be done with mortar as specified. Defective joints shall be cut out and repointed with mortar.
 - 16) Grouting:
 - a) Reinforcing steel shall be secured in place before grouting starts.
 - b) Mortar droppings shall be kept out of grout spaces.
 - c) Vertical cells to be filled shall have a minimum of two inches by three inches (2"x3"), unobstructed cell area.
 - d) Cells containing reinforcing rods shall be grouted full, with maximum four (4) foot lifts. Stop grout two (2) inches below top of block at top of lift to form key.
 - e) Vibrate within one half (1/2) hour.

B. Cleaning

The cleaning operation shall be one (1) of the last phases of the job. Do not start before mortar is thoroughly set and cured.

- 1) Exposed surfaces adjacent to masonry work which have become dirty, spotted with mortar spatter, etc. shall be cleaned down and left uniform in color and texture.
 - 2) Special Cleaning: Where walls are particularly dirty and cannot be
-

cleaned satisfactorily as specified above, use "Sure-Kleen" or similar products as approved. Use as directed by manufacturer. Acids are not to be used except for cleaning as specifically approved by the Owner.

- 3) On completion, all surfaces are to be left clean and to the satisfaction of the Owner.

END OF SECTION 04200

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

SECTION 07951 - CAULKING AND SEALANTS

PART 1 – GENERAL

1. DESCRIPTION OF WORK

A. Contract Document conditions and requirements will govern this work.

1. This specification covers the technical requirements for the furnish-
in of all labor, supervision, materials, tools, equipment and services
necessary for or incidental to the installation and completion of
caulking and sealing work in accordance with the drawings and as
specified herein.

2. QUALITY ASSURANCE

A. Codes and Standards: Codes, specifications and standards of the latest
issues listed below, but referred to thereafter by basic designation only,
form a part of this specification to the extent indicated by the references
thereto. In the event of discrepancies between this specification and the
codes, specification or standard, the more stringent applicable
requirement shall govern.

1. Federal Specifications:

HH-P-117	Packing; Jute, Twisted
TT-C-00598C	Caulking Compound, Oil and Resin Base (COM-NBS) Type (for Building Construction) and Am-1
TT-S-227b	Sealing Compound, Rubber Base, Two and Am-1 Component (for Caulking, Sealing, and Glazing in Building Construction)
TT-S-230a	Sealing Compound, Synthetic-Rubber Base, and Am-1 Single Component, Chemically Curing (for Caulking, and Glazing in Building Construction)

DIVISION 9 - FINISHES

SECTION 09220 - PORTLAND CEMENT PLASTER

1. GENERAL

A. Work included

- 1) Portland cement plaster system over concrete, and masonry surfaces.
- 2) Smooth surface finish.

B. References

- 1) ASTM C150 - Portland cement.
- 2) ANSI/ASTM C206 - Finishing Hydrated Lime.
- 3) ANSI/ASTM C207 - Hydrated Lime for Masonry Purposes.
- 4) ANSI/ASTM C631 -Bonding Compounds for Interior Plastering.
- 5) ANSI/ASTM C897- Aggregate for Job-Mixed Portland cement Based Plasters.
- 6) ANSI/ASTM C926 - Application of Portland Cement-Based Plaster.
- 7) PCA (Portland Cement Association) - Plaster (Stucco) Manual.

C. Quality Assurance

- 1) Applicator: Company specializing in cement plasterwork with five years documented experience.
- 2) Apply cement plaster in accordance with ASTM C926.
- 3) Testing Laboratory, paid by the Warner Chilcott, will secure sample of aggregate for gradation tests.

D. Submittals

- 1) Submit five copies of gradation of sand aggregate for base and finish coat to the Architect/Engineer for its review and approval.
-

E. Samples

- 1) Construct field sample panel five feet long by five feet wide, illustrating surface finish.
- 2) Locate where directed by Owner 's Representative.

F. Environmental Requirements

- 1) Protect Portland cement plaster from uneven and excessive evaporation during dry weather and from strong blasts of dry air.
- 2) Maintain adequate ventilation in all areas, particularly in interior areas with little or no natural air environment.

G. Delivery, storage, and handling

- 1) Water-sensitive materials shall be stored off the ground or floor and under cover, avoiding contact with damp floor or wall surfaces.
- 2) Store bulk materials in area of intended use and exercise caution to prevent subsequent contamination and segregation, or of bulk materials prior to use.

2. PRODUCTS

A. Plaster Base Coat Materials

- 1) Cement: ASTM C150, Normal - Type I Portland.
- 2) Lime: ANSI/ASTM C206, Type S.
- 3) Aggregate: ANSI/ASTM C897, Natural sand, within following limits:

Sieve Size	Percent Retained
No. 4	0
No. 8	0 to 5
No. 16	5 to 30
No. 30	30 to 65
No. 50	65 to 95
No. 100	90 to 100

-
- a) Not more than 50 percent shall be retained between any two consecutive sieves shown in the above table, not more than 25 percent between No. 50 and No. 100 sieves. The amount of material finer than a No. 200 sieve shall not exceed 3 percent.
 - b) Fineness modulus shall fall between 2.05 and 3.05.
- 4) Water: Clean, fresh, potable, and free of mineral or organic matter, which can affect the set, the plaster, or any metal in the system.
 - 5) Plaster Mix Reinforcement: Glass fibers, 1/2-inch (13 mm) nominal length, alkali resistant.

B. Plaster Finish Coat Materials

- 1) Cement: As specified for plaster base coat, gray color.
- 2) Lime: As specified for plaster base coat.
- 3) Sand: ANSI/ASTM C897; natural sand, natural color, and shall be graded within the limits shown above for base coats, except that all of the sand shall pass the No. 30 sieve.
- 4) Water: Clean, fresh, potable, and free of mineral or organic matter, which can affect plaster.

C. Accessories

- 1) Corner Mesh: Formed steel, minimum 26 gage; expanded flanges shaped to permit complete embedding in plaster; minimum 2 inches wide; galvanized rust inhibitive prime paint finish.
 - 2) Corner Beads: Formed steel, minimum 26 gage; beaded edge, of longest possible length; sized and profiled to suit application; galvanized finish.
 - 3) Casing Bead: Formed steel; minimum 26-gage thickness governed by plaster thickness; maximum possible lengths; solid flanges, with square edges; galvanized finish.
-

D. Cement Plaster Mixes

- 1) Mix and proportion cement plaster in accordance with ANSI/ASTM C926.
- 2) Base Coat and Brown Coat: Proportions shall be as indicated in Table 2 of ASTM C926. Add glass fibers at a rate of 1 1/2 lbs. per sack of cement.
- 3) Finish Coat: Proportions shall be as indicated in Table 3 of ASTM C926.
- 4) Mix only as much plaster as can be used in one hour.
- 5) Mix materials dry to uniform color and consistency, before adding water.
- 6) Protect mixtures from contamination and evaporation.

3. EXECUTION

A. Inspection

- 1) Clean surfaces to which plaster is to be applied of all projections, dust, loose particles, grease, bond breakers, and other foreign matter.
 - 2) Masonry: Verify joints are cut flush and surface is ready to receive work of this Section. Verify no bituminous or water repellent coatings exist on masonry surface.
 - 3) Concrete: Verify surfaces are flat, honeycomb is filled flush, and surface is ready to receive work of this Section. Verify no bituminous, water repellent, or form release agents exist on concrete surface that are detrimental to plaster.
 - 4) Grounds and Blocking: Verify items within walls for other Sections of work have been installed. Check metal grounds, corner beads, screeds, and other accessories carefully for alignment before work is started.
 - 5) Mechanical and Electrical: Verify services within walls have been tested and approved.
-

-
- 6) Beginning of installation means acceptance of existing conditions.

B. Preparation

- 1) Protect surfaces near the work of this Section from damage or disfiguration. Always install and maintain floor protective coverings during the application of plaster.
- 2) Dampen masonry surfaces to reduce excessive suction.
- 3) Clean concrete surfaces of foreign matter. Clean surfaces using acid solutions, solvents, or detergents. Wash surfaces with clean water.
- 4) Roughen smooth concrete surfaces and apply bonding agent. Apply in accordance with manufacturer's instructions.

C. Plastering

- 1) Apply plaster in accordance with ASTM C926.
- 2) Apply base coat to a nominal thickness of 3/8 inch and a finish coat to a nominal thickness of 1/8 inch over concrete and masonry surfaces.
- 3) Moist cure base coat.
- 4) After curing, dampen base coat prior to applying finish coat.
- 5) Apply finish coat and wood float to a smooth and consistent finish.
- 6) Avoid excessive working of surface. Delay trowelling as long as possible to avoid drawing excess fines to surface.
- 7) Moist cure finish coat for minimum period of 48 hours.

D. Patching and Pointing

- 1) Upon completion, cut out and patch loose, cracked, or defective plaster. Patching shall match existing work in texture, color, and shall be finished flush with plaster previously applied.
-

-
- 2) Do all pointing and patching of plastered surfaces a in a neat and workmanlike manner. Without damage any other finish work.
 - 3) Remove plaster droppings or spattering from all surfaces.
 - 4) Leave clean exposed plastered surfaces in condition ready to receive paint or other finish.
 - 5) Remove protective coverings from floors and other surfaces.

E. Tolerances

- 1) Maximum Variation from True Flatness: 1/8 inch in 10 feet.

END OF SECTION 09220



Security Recommendations for The Metropolitan Bus Authority Main Entrance

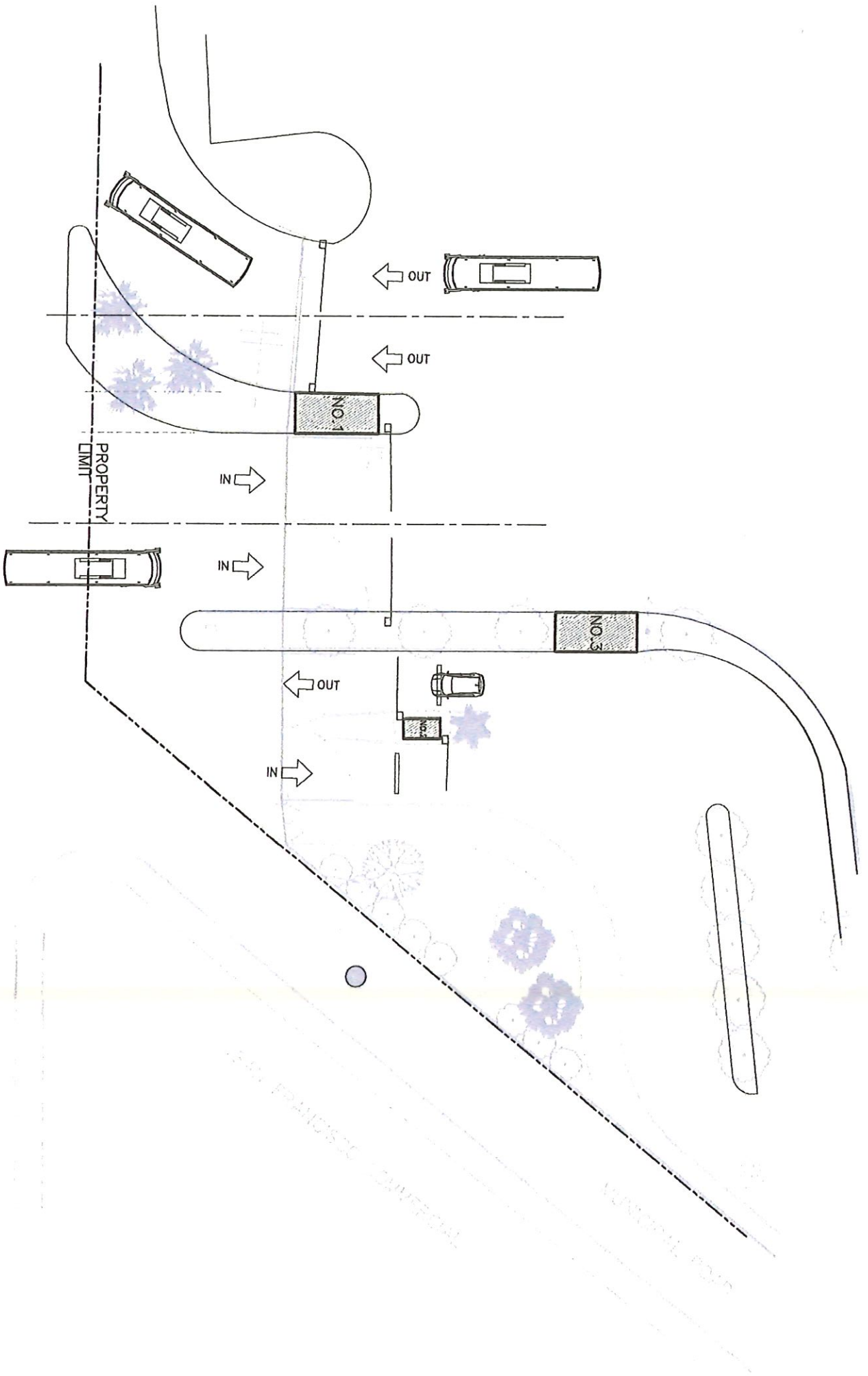


Scope of Work

1. Planter Demolition
2. Traffic Paint (Yellow)
3. Speed Bumps
4. Existing Sidewalk Demolition
5. New Employee Entrance
6. New 4' – 0" Sidewalk

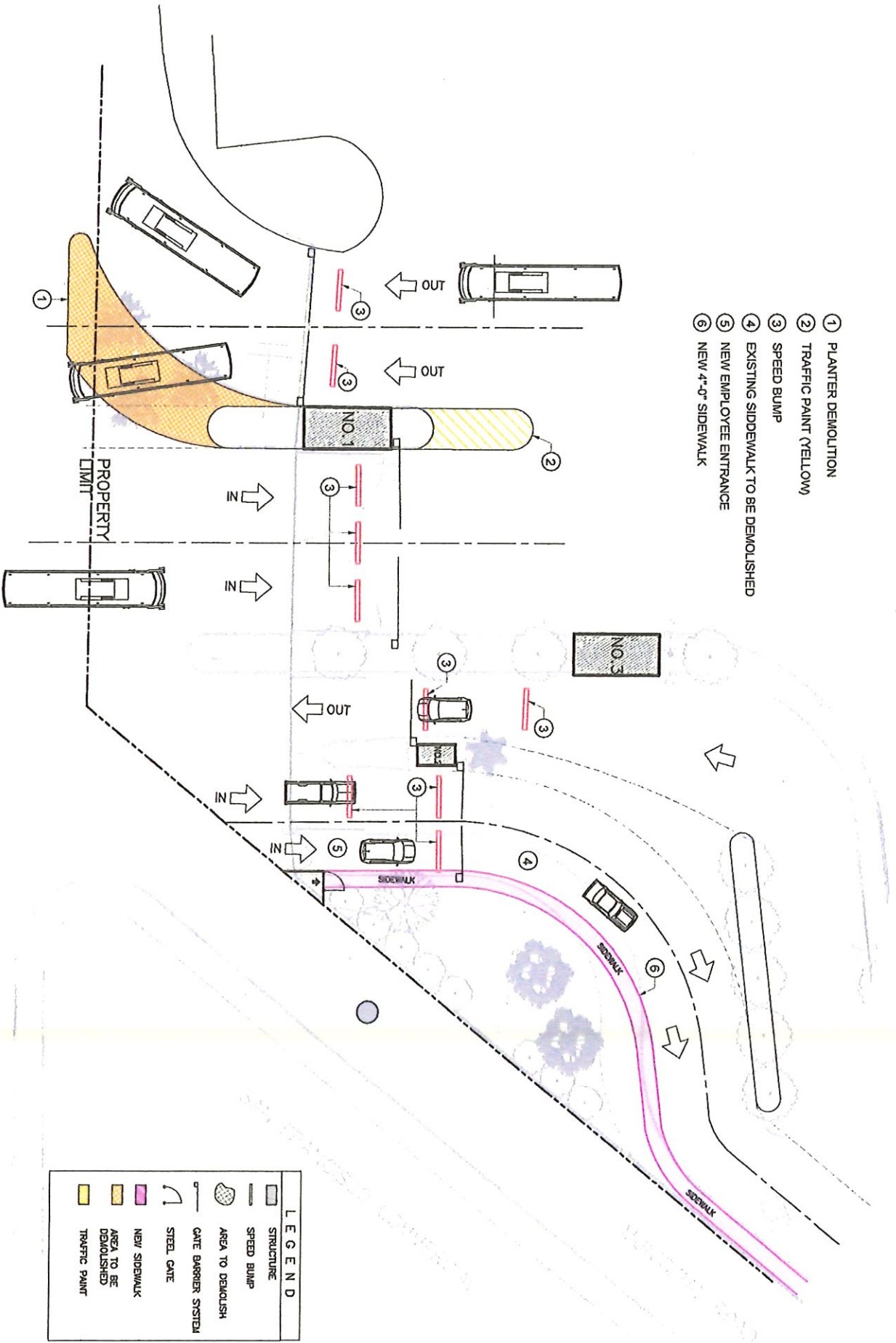
EXISTING SITE PLAN

DE DIEGO AVE.



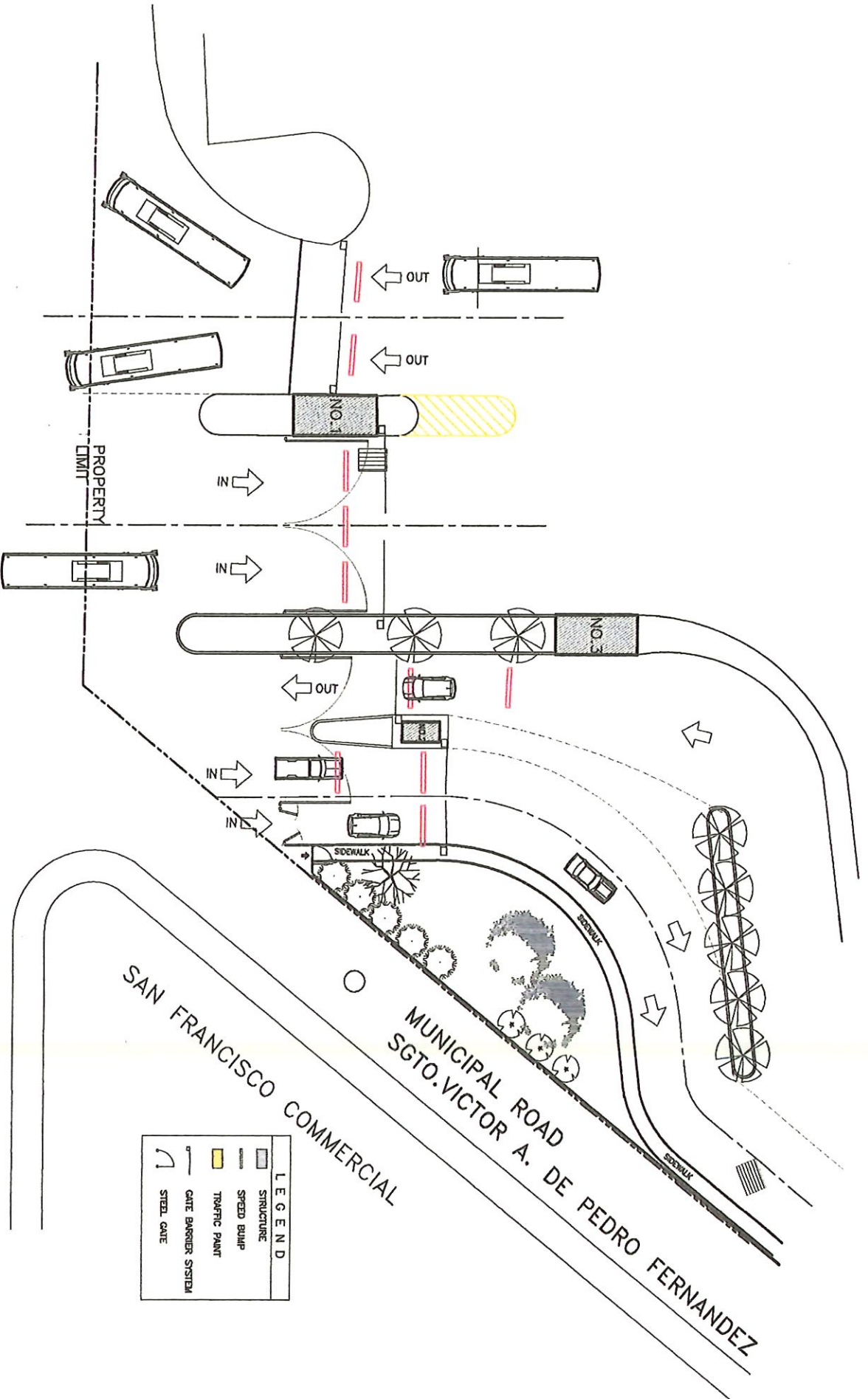
DEMOLITION SITE PLAN

DE DIEGO AVE.

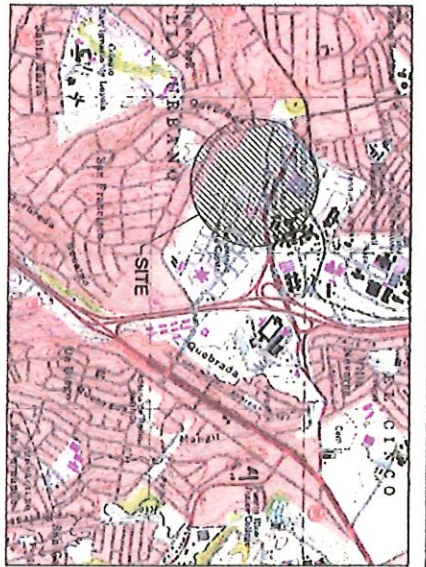


PROPOSED SITE PLAN

DE DIEGO AVE.

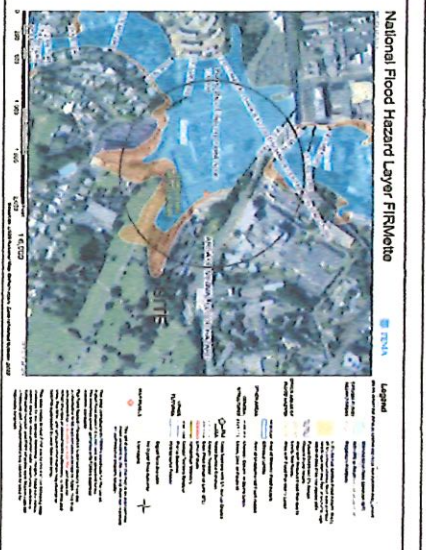


LEGEND	
	STRUCTURE
	SPEED BUMP
	TRAFFIC PAINT
	GATE BARRIER SYSTEM
	STEEL GATE



LOCATION MAP

1:20,000



FLOODING MAP

1:5,000



AERIAL PHOTO

PROPOSED MAIN ENTRANCE RESTORATION & SIDEWALK IMPROVEMENT (ADENDUM)

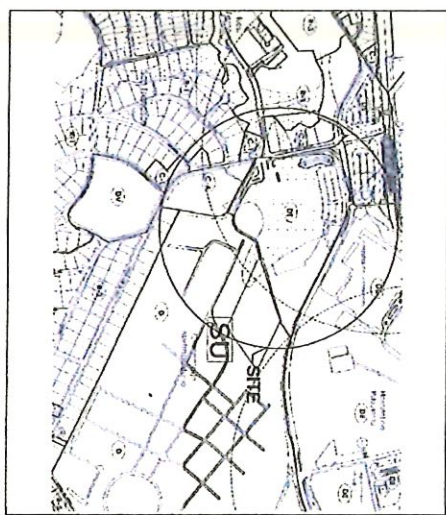
ENGINEERING & PROJECT MANAGEMENT SERVICES FOR METROPOLITAN BUS AUTHORITY PERMANENT REPAIRS TO PRMBA FACILITIES & EQUIPMENT (RFQ/P: 2020-001)

PROPERTY OF: METROPOLITAN BUS AUTHORITY
LOCATED AT: 37 AVE. DE DIEGO URB. SAN FRANCISCO
RIO PIEDRAS, PUERTO RICO



1-10 (1/4) PROJECT TITLE & MAPS
5-1 (2/4) MAIN ENTRANCE EXISTING & DEMOLITION
5-2 (3/4) SITE PLAN
5-3 (4/4) MAIN ENTRANCE PROPOSED SITE PLAN & DETAILS
5-4 (4/4) MAIN ENTRANCE (NEW STEEL GATES & DETAILS)

INDEX



ZONIFICATION



COORDINATES NAD 83:
X = 22716.8239
Y = 281442.2653

FLOODING MAP NUMBER:
MAP: 7205000333J
ZONE: AE

ZONING MAP:
ZONE: M1

NOTES:
1. THE PROJECT SITE IS LOCATED WITHIN THE SAN FRANCISCO URBAN ZONE, AS SHOWN ON THE ZONING MAP.
2. THE PROJECT SITE IS LOCATED WITHIN THE FLOOD HAZARD ZONE, AS SHOWN ON THE FLOODING MAP.
3. THE PROJECT SITE IS LOCATED WITHIN THE AERIAL PHOTO, AS SHOWN ON THE AERIAL PHOTO.

GEO ENGINEERS, P.S.C.
P.O. BOX 2840 GUAYAMA, P.R. 00930
TEL: 787-778-1301 FAX: 787-783-5732
WWW.GEOENGINEERS.PR

DESIGNED BY:
MIGUEL A. LOPEZ
REGISTERED PROFESSIONAL ENGINEER
P.R. NO. 10000

DRAWING BY:
MIGUEL A. LOPEZ

TITLE:
SAN JUAN

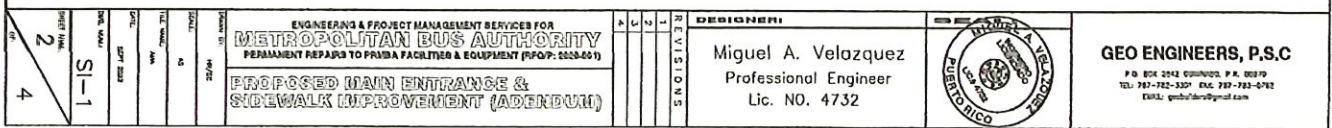
SCALE:
1"=100'

DATE:
SEP 2022

SHEET NO:
1-1

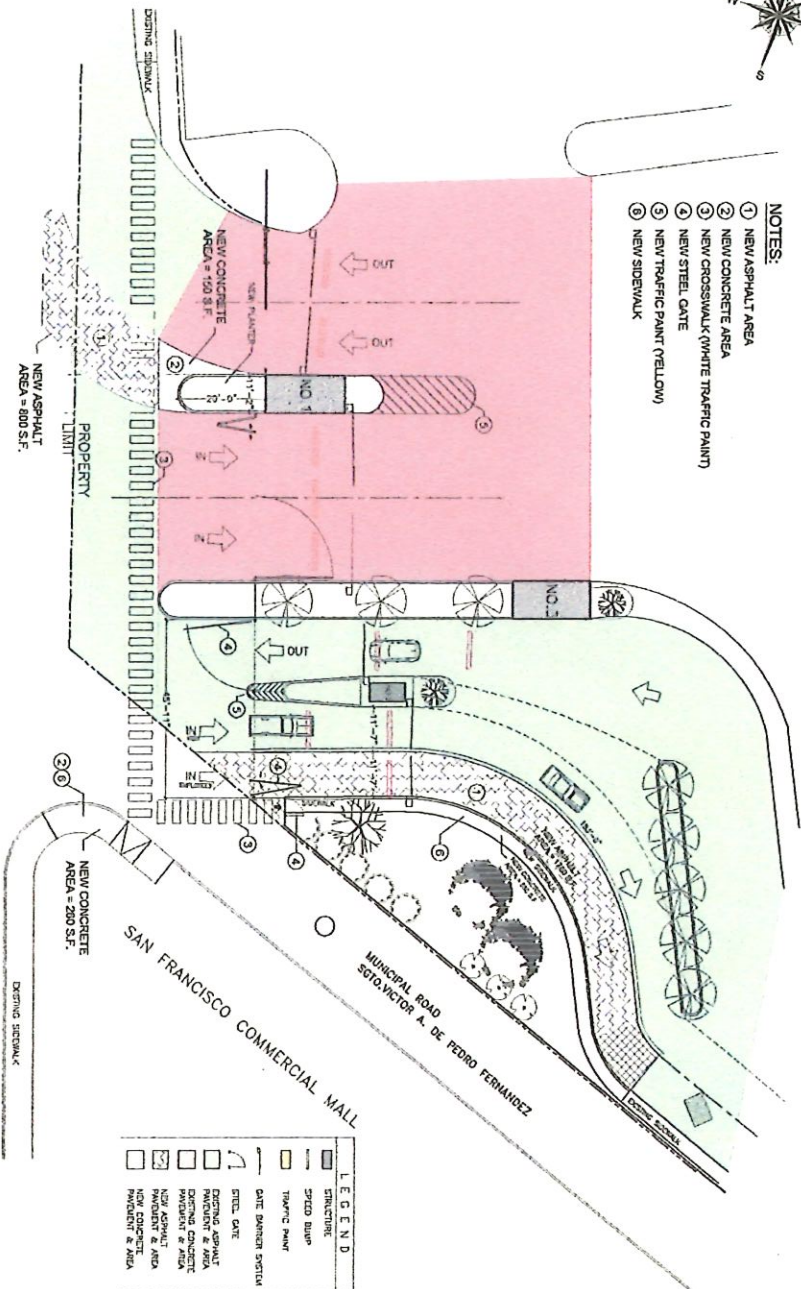
TOTAL SHEETS:
1 OF 4

PROJECT:
METROPOLITAN BUS AUTHORITY



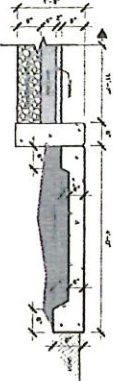


- NOTES:**
- ① NEW ASPHALT AREA
 - ② NEW CONCRETE AREA
 - ③ NEW CROSSWALK (WHITE TRAFFIC PAINT)
 - ④ NEW STEEL GATE
 - ⑤ NEW TRAFFIC PAINT (YELLOW)
 - ⑥ NEW SIDEWALK



DE DIEGO AVE.

MAIN ENTRANCE PROPOSED SITE PLAN



SECTION THRU NEW LANE EXPANSION

DATE	BY	CHKD.	APP'D.
10/1/01	MA	MA	MA
10/1/01	MA	MA	MA

GENERAL NOTES

1. THE PROPOSED MAIN ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR STRUCTURES, AND THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL DEVICES.
2. THE PROPOSED MAIN ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR STRUCTURES, AND THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL DEVICES.
3. THE PROPOSED MAIN ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR STRUCTURES, AND THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL DEVICES.
4. THE PROPOSED MAIN ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR STRUCTURES, AND THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL DEVICES.
5. THE PROPOSED MAIN ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR STRUCTURES, AND THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL DEVICES.

GENERAL NOTES

1. THE PROPOSED MAIN ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR STRUCTURES, AND THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL DEVICES.
2. THE PROPOSED MAIN ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR STRUCTURES, AND THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL DEVICES.
3. THE PROPOSED MAIN ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR STRUCTURES, AND THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL DEVICES.
4. THE PROPOSED MAIN ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR STRUCTURES, AND THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL DEVICES.
5. THE PROPOSED MAIN ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR STRUCTURES, AND THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL DEVICES.

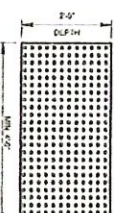
LEGEND

[Symbol]	STRUCTURE
[Symbol]	TRAFFIC PAINT
[Symbol]	DATE DRAINAGE SYSTEM
[Symbol]	STEEL GATE
[Symbol]	EXISTING ASPHALT
[Symbol]	EXISTING CONCRETE
[Symbol]	NEW ASPHALT
[Symbol]	NEW CONCRETE
[Symbol]	NEW ASPHALT & AREA
[Symbol]	NEW ASPHALT & AREA

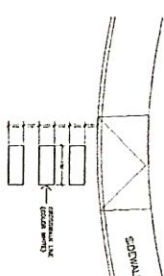
DETECTABLE WARNING SURFACE ELEVATION VIEW (TYP)



DETECTABLE WARNING SURFACE DETAIL

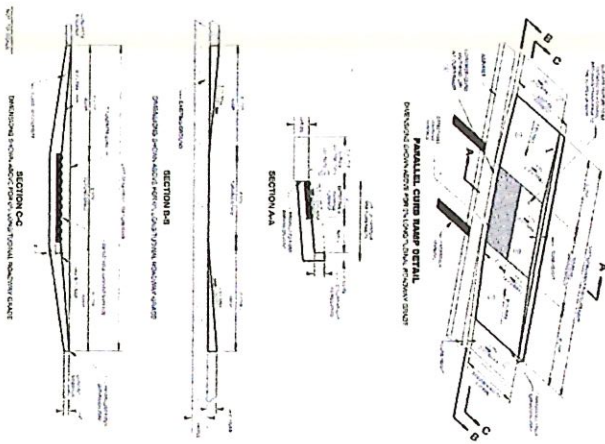


CROSS WALK TYPICAL DETAIL



GENERAL NOTES

1. THE PROPOSED MAIN ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR STRUCTURES, AND THE LATEST EDITIONS OF THE CALIFORNIA STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL DEVICES.



GEO ENGINEERS, P.S.C.
P.O. BOX 2940 QUINCY, ILL. 62409
TEL: 781-782-7821 FAX: 781-782-7822
WWW: geosystemsinc.com

**FEDERAL TRANSIT ADMINISTRATION CLAUSES
ATTACHMENT**

MATRIX OF FTA THIRD-PARTY CONTRACT CLAUSES

(This matrix does not apply to micro-purchases,¹ except that Davis Bacon requirements apply to all federal construction contracts over \$2,000)

Last revised: September 22, 2022

This Matrix is not meant to be all inclusive. Please review the specific funding source, as well as all clauses for applicability to the type of contract and flow down requirements.

	CLAUSE	TYPE OF PROCUREMENT					<i>Applicable</i>
		<i>Professional Services/A&E</i>	<i>Operations/ Management/ Subrecipients</i>	<i>Rolling Stock Purchase</i>	<i>Construction* (*See Note Below)</i>	<i>Materials & Supplies</i>	√
1.	No Federal government obligations to third parties by use of a disclaimer	<i>All</i>	<i>All</i>	<i>All</i>	<i>All</i>	<i>All</i>	√
2.	Program fraud and false or fraudulent statements and related acts	<i>All</i>	<i>All</i>	<i>All</i>	<i>All</i>	<i>All</i>	√
3.	Access to Records	<i>All</i>	<i>All</i>	<i>All</i>	<i>All</i>	<i>All</i>	√
4.	Federal changes	<i>All</i>	<i>All</i>	<i>All</i>	<i>All</i>	<i>All</i>	√

¹ Currently set at \$10,000. 2 CFR § 200.320.

* Per 41 CFR Part 60- 1.3, *Construction work* means the construction, rehabilitation, alteration, conversion, extension, demolition or repair of buildings, highways, or other changes or improvements to real property, including facilities providing utility services. The term also includes the supervision, inspection, and other onsite functions incidental to the actual construction.

	CLAUSE	TYPE OF PROCUREMENT					Applicable √
		Professional Services/A&E	Operations/ Management/ Subrecipients	Rolling Stock Purchase	Construction* (*See Note Below)	Materials & Supplies	
5.	Civil Rights (EEO, Title VI & ADA)	All	All	All	All	All	√
6.	Incorporation of FTA Terms	All	All	All	All	All	√
7.	Energy Conservation	All	All	All	All	All	√
8.	Termination Provisions (not required of states)	>\$10,000	>\$10,000	>\$10,000	>\$10,000	>\$10,000	√
9.	Debarment and Suspension	>\$25,000	>\$25,000	>\$25,000	>\$25,000	>\$25,000	√
10.	Buy America			>\$150,000	>\$150,000	>\$150,000 (for steel, iron, manufactured products)	
11.	Provisions for resolution of disputes, breaches, or other litigation	>\$150,000 (see Note)	>\$150,000 (see Note)	>\$150,000 (see Note)	>\$150,000 (see Note)	>\$150,000 (see Note)	√
12.	Lobbying	>\$100,000	>\$100,000	>\$100,000	>\$100,000	>\$100,000	√
13.	Clean Air	>\$150,000	>\$150,000	>\$150,000	>\$150,000	>\$150,000	√
14.	Clean Water	>\$150,000	>\$150,000	>\$150,000	>\$150,000	>\$150,000	√

	CLAUSE	TYPE OF PROCUREMENT					Applicable √
		Professional Services/A&E	Operations/ Management/ Subrecipients	Rolling Stock Purchase	Construction* (*See Note Below)	Materials & Supplies	
15.	Cargo Preference			Involving property that may be transported by ocean vessel	Involving property that may be transported by ocean vessel	Involving property that may be transported by ocean vessel	√
16.	Fly America	Involving foreign transport or travel by air	Involving foreign transport or travel by air	Involving foreign transport or travel by air	Involving foreign transport or travel by air	Involving foreign transport or travel by air	√
17.	Davis Bacon Act and Copeland Anti-Kickback Act				Construction contracts and subcontracts, including actual construction, alteration and/or repair, including decorating and painting, >\$2,000 (including ferry vessels)		√
18.	Contract Work Hours & Safety Standards Act		Contracts >\$100,000 that involve the	Contracts >\$100,000 that involve the	Contracts >\$100,000 that involve the		√

	CLAUSE	TYPE OF PROCUREMENT					Applicable √
		Professional Services/A&E	Operations/ Management/ Subrecipients	Rolling Stock Purchase	Construction* (*See Note Below)	Materials & Supplies	
			employment of mechanics or laborers	employment of mechanics or laborers	employment of mechanics or laborers (including ferry vessels)		
19.	Bonding				> \$250,000 (including ferry vessels) or as determined by the Authority and the federal awarding agency.		√
20.	Seismic Safety	A&E for new buildings & additions			New buildings & additions		√
21.	Public Transportation Employee Protective Arrangements		FTA programs involving public transportation operations funded with 5307-5312, and 5316				

	CLAUSE	TYPE OF PROCUREMENT					Applicable √
		Professional Services/A&E	Operations/ Management/ Subrecipients	Rolling Stock Purchase	Construction* (*See Note Below)	Materials & Supplies	
22.	Charter Service Operations		All transit operations contracts involving FTA funding under 49 USC 5307, 5309, 5311 or 5316 funds				
23.	School Bus Operations		All transit operations contracts				
24.	Drug and Alcohol Testing		All transit operations contracts				
25.	Patent and Rights in Data	Research & development					
26.	Special DOL EEO clause for construction projects				>\$10,000		√
27.	Disadvantaged Business Enterprises (DBEs)	All	All	All	All	All	√

	CLAUSE	TYPE OF PROCUREMENT					Applicable √
		Professional Services/A&E	Operations/ Management/ Subrecipients	Rolling Stock Purchase	Construction* (*See Note Below)	Materials & Supplies	
28.	Recycled Products (Solid Wastes)		Contracts for items designated by EPA, when procuring \$10,000 or more per year		Contracts for items designated by EPA, when procuring \$10,000 or more per year	Contracts for items designated by EPA, when procuring \$10,000 or more per	√
29.	ADA Access	A&E	All	All	All		√
30.	Veterans Preference	All	All	All	All	All	√
31.	Motor Carrier Safety	All	All	All	All	All	√
32.	Safe Operation of Motor Vehicles	All	All	All	All	All	√
33.	Protection of Sensitive and Personally Identifiable Information	All	All	All	All	All	√
34.	Trafficking in Persons	All	All	All	All	All	√
35.	Tax Liability and Recent Felony Convictions	All	All	All	All	All	√
36.	Construction Site Safety				All		√
37.	Domestic Preferences for	All	All	All	All	All	√

	CLAUSE	TYPE OF PROCUREMENT					Applicable √
		Professional Services/A&E	Operations/ Management/ Subrecipients	Rolling Stock Purchase	Construction* (*See Note Below)	Materials & Supplies	
	Procurements						
38.	Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment	All	All	All	All	All	√
39.	Bus Testing			All, except minivans			
40.	Pre-Award and Post-Delivery Audit Requirements			All			
41.	FTA Clauses Required when DBE threshold has been met	If DBE threshold has been met	DBE threshold has been met	DBE threshold has been met	DBE threshold has been met	DBE threshold has been met	√
42.	Representation Regarding Certain Telecommunication and Video Surveillance Services or Equipment						

REQUIRED CLAUSES FOR FTA-ASSISTED CONTRACTS

These requirements do not apply to micro-purchases (\$10,000 or less), except that Davis-Bacon requirements apply to contracts over \$2,000.

Applicability data is found on the table above and with each clause below. Please review your specific funding source for additional applicability and requirements.

1. No Federal Government Obligation to Third Parties.

Authority - FTA Master Agreement FY2020 at Section 3(l)

Applicability - all contracts

The Recipient and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying Contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this Contract and shall not be subject to any obligations or liabilities to the Recipient, Contractor or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying Contract. The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by the FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

Flow Down Requirements - This requirement flows down to all subcontracts at every tier.

2. Program Fraud and False or Fraudulent Statements and Related Acts.

Authority - 49 U.S.C. § 5323(l) (1), 31 U.S.C. §§ 3801-3812, 18 U.S.C. § 1001 and 49 C.F.R. part 31, FTA Master Agreement at Section 39(b)(2).

Applicability - all contracts

The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. chapter 53, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5323(l) on the Contractor, to the extent the Federal Government deems appropriate.

Additional Notice to U.S. DOT Inspector General. The Contractor must promptly notify the U.S. DOT Inspector General in addition to the FTA Chief Counsel or Regional Counsel for the Region in which the Project is located, if the Contractor has knowledge of potential fraud, waste, or abuse occurring on any project receiving assistance from FTA. The notification provision applies if a person has or may have submitted a false claim under the False Claims Act, 31 U.S.C. § 3729 et seq., or has or may have committed a criminal or civil violation of law pertaining to such matters as fraud, conflict of interest, bid rigging, misappropriation or embezzlement, bribery, gratuity, or similar misconduct involving federal assistance. This responsibility occurs regardless of whether the project is related to this Contract or another agreement with FTA, and also applies to subcontractors at any tier. “Knowledge,” as used in this paragraph, includes, but is not limited to, knowledge of a criminal or civil investigation by a Federal, state, or local law enforcement or other investigative agency, a criminal indictment or civil complaint, or probable cause that could support a criminal indictment, or any other credible information in the possession of the Contractor. In this paragraph, “promptly” means to refer information without delay and without change.

The Contractor agrees to include the above clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

Flow Down Requirements - The Program Fraud clause extends to all contractors and their subcontracts at every tier who make, present, or submit covered claims and statements.

3. Access to Records and Reports.

Authority - 49 U.S.C. § 5325(g), 2 C.F.R. § 200.333 and 49 C.F.R. part 633, 49 CFR part 625, 49 CFR part 630, FTA Master Agreement FY2020 at Sections 8(c)(1) and 20.

Applicability – all contracts

a. Record Retention. The Contractor will retain, and will require its subcontractors of all tiers to retain, complete and readily accessible records related in whole or in part to the contract, including, but not limited to, data, documents, reports, statistics, sub-agreements, leases, subcontracts, arrangements, other third party agreements of any type, and supporting materials related to those records.

- b. Retention Period. The Contractor agrees to comply with the record retention requirements in accordance with 2 C.F.R. § 200.333. The Contractor shall maintain all books, records, accounts and reports required under this Contract for a period of at not less than three (3) years after the date of termination or expiration of this Contract, except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case records shall be maintained until the disposition of all such litigation, appeals, claims or exceptions related thereto.
- c. Access to Records. The Contractor agrees to provide sufficient access to FTA and its contractors to inspect and audit records and information related to performance of this contract as reasonably may be required. Contractor is notified that the Authority may be subject to the Single Audit Act, set forth in 2 CFR Part 200, Subpart F – Audit Requirements, as amended.
- d. Access to the Sites of Performance. The Contractor agrees to permit FTA and its contractors access to the sites of performance under this contract as reasonably may be required.
- e. Contractor agrees to comply with FTA regulations, “Transit Asset Management; National Transit Database,” 49 C.F.R. parts 625 and 630, as applicable, and follow applicable federal guidance.

Flow Down Requirements - This requirement flows down to all subcontracts at every tier.

4. Federal Changes.

Authority – FTA Master Agreement (25) at Section 9(c)(1)

Applicability – all contracts

Contractor shall comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master Agreement between the purchaser and FTA, Super Circular 2 CFR Part 200 and FTA Circular 4220.1F as they may be amended or promulgated from time to time during the term of the contract. Contractor's failure to comply shall constitute a material breach of the contract.

Flow Down Requirements - This requirement flows down to all subcontracts at every tier.

5. Civil Rights (Title VI, EEO, ADA).

Authority – Appendix II to Part 200, FTA Master Agreement FY2020 at Section 12(b)-(d), FTA Best Procurement Practices Manual

Applicability - all contracts

The XXX is an Equal Opportunity Employer. As such, the XXX agrees to comply with all applicable Federal civil rights laws and implementing regulations. Apart from inconsistent requirements imposed by Federal laws or regulations, the XXX agrees to comply with the requirements of 49 U.S.C. § 5323(h) (3) by not using any Federal assistance awarded by FTA to support procurements using exclusionary or discriminatory specifications.

Under this Agreement, the Contractor shall at all times comply with the following requirements and shall include these requirements in each subcontract entered into as part thereof.

1. **Nondiscrimination.** In accordance with Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, sex, disability, or age. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

2. **Race, Color, Religion, National Origin, Sex.** In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e et seq., and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. chapter 60, and Executive Order No. 11246, "Equal Employment Opportunity in Federal Employment," September 24, 1965, 42 U.S.C. § 2000e note, as amended by any later Executive Order that amends or supersedes it, referenced in 42 U.S.C. § 2000e note. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, national origin, or sex (including sexual orientation and gender identity). Such action shall include, but not be limited to, the following: employment, promotion, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

3. **Age.** In accordance with the Age Discrimination in Employment Act, 29 U.S.C. §§ 621-634, U.S. Equal Employment Opportunity Commission (U.S. EEOC) regulations, "Age Discrimination in Employment Act," 29 C.F.R. part 1625, the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6101 et seq., U.S. Health and Human Services regulations, "Nondiscrimination on the Basis of Age in Programs or Activities Receiving Federal Financial Assistance," 45 C.F.R. part 90, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

4. **Disabilities.** In accordance with section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, the Americans with Disabilities Act of 1990, as amended, 42 U.S.C. § 12101 et seq., the Architectural Barriers Act of 1968, as amended, 42 U.S.C. § 4151 et seq., and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against individuals on the basis of disability. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

Sanctions for Noncompliance. In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the Authority shall impose such contract sanctions as it, the FTA, FDOT or the U.S. DOT may determine to be appropriate, including, but not limited to: withholding of payments to the Contractor under the Contract until the Contractor complies and/or cancellation, termination or suspension of the Contract, in whole or in part.

Flow Down Requirements - This requirement flows down to all subcontracts at every tier. In all solicitations made by the Contractor and all subcontractors, either by competitive bidding or negotiation for work to be performed under a subcontract, including procurements of materials and leases of equipment, each potential subcontractor or supplier shall be notified in writing by the Contractor of the Contractor's obligations under this Contract and the Regulations relative to nondiscrimination on the basis of race, creed, color, sex, sexual orientation, gender identity, national origin, religion, age, disability, or family status and that these same obligations extend to any subcontractor, supplier or lessor.

6. Incorporation of Federal Transit Administration (FTA) Terms.

Authority – FTA Master Agreement (25) at Section 3(i)(5)

Applicability - all contracts

All contractual provisions required by FTA, as set forth in FTA Circular 4220.1F and the Super Circular 2 CFR Part 200, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any State requests, which would cause the State to be in violation of the FTA terms and conditions.

Flow Down Requirements - This requirement flows down to all subcontracts at every tier.

7. Energy Conservation.

Authority - 42 U.S.C. 6321 et seq. and 49 C.F.R. part 622, subpart C

Applicability - all contracts

Contractor shall comply with mandatory standards and policies relating to energy efficiency, stated in the state energy conservation plan issued in compliance with the Energy Policy & Conservation Act, as amended, 42 U.S.C. § 6321 et seq., and perform an energy assessment for any building constructed, reconstructed, or modified with federal assistance required under FTA regulations, “Requirements for Energy Assessments,” 49 C.F.R. part 622, subpart C.

Flow Down Requirements - This requirement flows down to all subcontracts at every tier.

8. Termination Provisions.

Authority - 2 C.F.R. § 200.339 and 2 C.F.R. part 200, Appendix II (B), FTA Master Agreement at Section 16(d)(2)

Applicability – all contracts

For all contracts in excess of \$10,000, termination provisions are referenced in Section IV. **Term of Contract and Termination** of the Contract under Section IV of this solicitation package. These termination provisions address termination for cause and for convenience by the non-federal entity and includes the manner by which it will be effected and the basis for settlement.

Flow Down Requirements – none.

9. Government-Wide Debarment and Suspension.

Authority - 2 C.F.R. part 180, 2 C.F.R. § 180.300, 2 C.F.R. part 1200, 2 C.F.R. § 200.213, 2 C.F.R. part 200 Appendix II (I), Executive Order 12549 and Executive Order 12689, FTA Master Agreement FY2020 at Section 4(h), FTA Best Procurement Practices Manual

Applicability - All contracts over \$25,000

The Contractor shall comply and facilitate compliance with U.S. DOT regulations, “Nonprocurement Suspension and Debarment,” 2 C.F.R. part 1200, which adopts and supplements the U.S. Office of Management and Budget (U.S. OMB) “Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement),” 2 C.F.R. part 180. These provisions apply to each contract at any tier of \$25,000 or more, and to each contract at any tier for a federally required audit (irrespective of the contract amount), and to each contract at any tier that must be approved by an FTA official irrespective of the contract amount. As such, the Contractor shall verify that its principals, affiliates, and subcontractors are eligible to participate in this federally funded contract and are not presently declared by any Federal department or agency to be:

- a) Debarred from participation in any federally assisted Award;
- b) Suspended from participation in any federally assisted Award;
- c) Proposed for debarment from participation in any federally assisted Award;
- d) Declared ineligible to participate in any federally assisted Award;
- e) Voluntarily excluded from participation in any federally assisted Award; or
- f) Disqualified from participation in any federally assisted Award.

By signing and submitting its bid or proposal, the bidder or Bidder certifies as follows:

The certification in this clause is a material representation of fact relied upon by the XXX. If it is later determined by the XXX that the bidder or Bidder knowingly rendered an erroneous certification, in addition to remedies available to the XXX, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or

Bidder agrees to comply with the requirements of 2 C.F.R. part 180, subpart C, as supplemented by 2 C.F.R. part 1200, while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or Bidder further agrees to include a provision requiring such compliance in its lower tier covered transactions.

Flow Down Requirements - Recipients, contractors, and subcontractors who enter into covered transactions with a participant at the next lower level, must require that participant to: (a) comply with subpart C of 2 C.F.R. part 180, as supplemented by 2 C.F.R. part 1200; and (b) pass the requirement to comply with subpart C of 2 C.F.R. part 180 to each person with whom the participant enters into a covered transaction at the next lower tier.

10. Buy America Requirements.

Authority - 49 U.S.C. 5323(j) and 49 C.F.R. part 661 (49 C.F.R. § 661.13(b) and 49 C.F.R. § 661.6), FTA Master Agreement FY2020 at Sections 3(h) and 16(d)(1), FTA Best Procurement Practices Manual

Applicability – Construction Contracts and Acquisition of Goods or Rolling Stock valued at more than \$150,000. Work orders and small purchases of less than one hundred fifty thousand dollars (\$150,000.00) made with capital, operating, or planning funds are waived from Buy America requirements.

The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. part 661, which provide that Federal funds may not be obligated unless all steel, iron, and manufactured products used in FTA funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. § 661.7. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. § 661.11.

The Bidder must submit to XXX the appropriate Buy America certification below with its Bid. Bids or offers that are not accompanied by a completed Buy America certification will be rejected as nonresponsive.

The XXX presumes that any Contractor who submitted such certificate is complying with the Buy America provisions. A false certification is a criminal act in violation of 18 U.S.C. § 1001. A Contractor who certifies that it will comply with the applicable Buy America requirement is bound by its original certification (in the case of a sealed bidding procurement) or the certification it submitted with its final offer (in the case of a negotiated procurement) and is not permitted to change its certification after bid opening or submission of its final offer. Where a Contractor certifies that it will comply with Buy America requirements, the Contractor is not eligible for a waiver of those requirements. The XXX reserves the right to request additional information, and/or to conduct both pre-award and post-award audits to ensure that the Contractor is in compliance with Buy America requirements.

In addition to the aforementioned Buy America Requirements, the Infrastructure Investment and Jobs Act (“IIJA”), Pub. L. No. 117-58 that includes the Build America, Buy America Act (“the Act”) Pub. L. No. 117-58, §§ 70901-58, specifically §70914 of the Act, requires the following Buy America preference:

1. All iron and steel used in the project are produced in the United States. This means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
2. All manufacturer products used in the project are produced in the United States. This means the manufactured product was manufactured in the United States, and the cost of the components of the manufacturer product that are mined, produced or manufactured in the United States is greater than 55 percent (55%) of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established in applicable law or regulation.
3. All construction materials are manufactured in the United States. This means that all manufacturing processes for the construction material occurred in the United States (IIJA §70912(2) and (6)(B)(ii)).

The Buy America preference only applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does a Buy America preference apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment that are used at or within the finished infrastructure project, but are not an integral part of the structure or permanently affixed to the infrastructure project.

Definitions

“Construction materials” include an article, material, or supply – other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives – that is or consists primarily of:

- Non-ferrous metals;
- Plastic and polymer-based products (including polyvinylchloride, composite building materials and polymers used in fiber optic cables);
- Glass (including optic glass);
- Lumber; or
- Drywall.

“Domestic content procurement preference” means all iron and steel used in the project are produced in the United States; the manufactured products used in the project are produced in the United States; or the construction materials used in the project are produced in the United States.

“Infrastructure” includes, at a minimum, the structures, facilities, and equipment for, in the United States, roads, highways, and bridges; public transportation; dams, ports, harbors, and other maritime facilities; intercity passenger and freight railroads; freight and intermodal facilities; airports; water systems, including drinking water and wastewater systems; electrical transmission facilities and systems; utilities; broadband infrastructure; and buildings and real property. Infrastructure includes facilities that generate, transport, and distribute energy.

“Project” means the construction, alteration, maintenance, or repair of infrastructure in the United States.

Flow Down Requirements - The Buy America requirements flow down from FTA recipients and subrecipients to first tier contractors, who are responsible for ensuring that lower tier contractors and subcontractors are in compliance.

11. Provisions for resolution of disputes, breaches, or other litigation.

Authority – FTA Master Agreement FY2020 at Section 39(b)(1)-(2).

Applicability – all contracts

If a current or prospective legal matter that may affect the Federal Government emerges, the Contractor must promptly notify the Authority. The Contractor must include a similar notification requirement in its subcontracts at every tier for any agreement that is a “covered transaction” according to 2 C.F.R. §§ 180.220 and 1200.220.

(1) The types of legal matters that require notification include, but are not limited to, a major dispute, breach, default, litigation, or naming the Federal Government as a party to litigation or a legal disagreement in any forum for any reason.

(2) Matters that may affect the Federal Government include, but are not limited to, the Federal Government’s interests in the Award, the accompanying Underlying Agreement, and any Amendments thereto, or the Federal Government’s administration or enforcement of federal laws, regulations, and requirements.

Flow Down Requirements - The Contractor must include a similar notification requirement in its subcontracts at every tier for any agreement that is a “covered transaction” according to 2 C.F.R. §§ 180.220 and 1200.220.

12. Lobbying Restrictions.

Authority - 31 U.S.C. § 1352, 2 C.F.R. § 200.450, 2 C.F.R. part 200 appendix II (I) and 49 C.F.R. part 20, appendix A, FTA Master Agreement FY2020 at Section 4(c)

Applicability - All contracts over \$100,000

A. Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65 [to be codified at 2 U.S.C. § 1601, et seq.] - Contractors who apply or bid for an award of \$100,000 or more shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non- Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

B. The lobbying requirements mandate the maximum flow down pursuant to Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352(b)(5). The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

Flow Down Requirements - The lobbying requirements mandate the maximum flow down pursuant to Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352(b)(5).

13. Clean Air

Authority - 42 U.S.C. 7401–7671q and FTA Master Agreement FY2020 at Section 16(d)(7)

Applicability - All contracts over \$150,000

The Contractor agrees:

- 1) It will not use any violating facilities;
- 2) It will report the use of facilities placed on or likely to be placed on the U.S. EPA "List of Violating Facilities;"
- 3) It will report violations of use of prohibited facilities to FTA; and
- 4) It will comply with the inspection and other requirements of the Clean Air Act, as amended, (42 U.S.C. §§ 7401 – 7671q); and the Federal Water Pollution Control Act as amended, (33 U.S.C. §§ 1251-1387).

Flow Down Requirements - The Clean Air Act requirements flow down to all subcontracts over \$150,000 at every tier.

14. Clean Water.

Authority - 33 U.S.C. 1251–1388, the Federal Water Pollution Control Act 33 U.S.C. 1251-1387, as amended, FTA Master Agreement FY2020 at Section 16(d)(7)

Applicability - All contracts over \$150,000

Contractor shall comply with all applicable standards, orders or regulations issued pursuant to Section 508 of the Clean Water Act, as amended, 33 U.S.C. § 1368, and other requirements of the Clean Water Act, as amended, 33 U.S.C. §§ 1251 – 1377. Contractor shall report each violation to the recipient and understands and agrees that the recipient shall, in turn, report each violation as required to FTA and the appropriate EPA Regional Office. Contractor shall include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with FTA assistance.

Flow Down Requirements - The Clean Water requirements flow down to all subcontracts over \$150,000 at every tier.

15. Cargo Preference - Use of United States-Flag Vessels.

Authority - 46 U.S.C. § 55305 and 46 C.F.R. part 381.7, FTA Master Agreement FY2020 at Section 15(b), FTA C 4220.1F at Appendix D

Applicability - Contracts involving equipment, materials or commodities which may be transported by ocean vessels.

Contractor shall: (a) use privately owned US-Flag commercial vessels to ship at least 50% of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners and tankers) involved, whenever shipping any equipment, material or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for US flag commercial vessels; (b) furnish within 20 working days following the loading date of shipments originating within the US or within 30 working days following the loading date of shipments originating outside the US, a legible copy of a rated, "on-board" commercial bill-of-lading in English for each shipment of cargo described herein to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the recipient (through contractor in the case of a subcontractor's bill-of-lading.); (c) include these requirements in all subcontracts issued pursuant to this contract when the subcontract involves the transport of equipment, material or commodities by ocean vessel.

Flow Down Requirements - The Cargo Preference requirements flow down to all subcontracts involved with the transport of equipment, material, or commodities by ocean vessel.

16. Fly America.

Authority - 49 U.S.C. § 40118, 41 C.F.R. part 301-10 and 48 C.F.R. part 47.4, FTA Master Agreement FY2020 at Section 15(c), FTA C 4220.1F at Appendix D

Applicability - All contracts involving transportation of persons or property, by air between the U.S. and/or places outside the U.S.

a) Definitions. As used in this clause--

“International air transportation” means transportation by air between a place in the United States and a place outside the United States or between two places both of which are outside the United States.

“United States” means the 50 States, the District of Columbia, and outlying areas.

“U.S.-flag air carrier” means an air carrier holding a certificate under 49 U.S.C. Chapter 411.

b) When Federal funds are used to fund travel, Section 5 of the International Air Transportation Fair Competitive Practices Act of 1974 (49 U.S.C. 40118) (Fly America Act) requires contractors, recipients, and others use U.S.-flag air carriers for U.S. Government-financed international air transportation of personnel (and their personal effects) or property, to the extent that service by those carriers is available. It requires the Comptroller General of the United States, in the absence of satisfactory proof of the necessity for foreign-flag air transportation, to disallow expenditures from funds, appropriated or otherwise established for the account of the United States, for international air transportation secured aboard a foreign-flag air carrier if a U.S.-flag air carrier is available to provide such services.

c) If available, the Contractor, in performing work under this contract, shall use U.S.-flag carriers for international air transportation of personnel (and their personal effects) or property.

d) In the event that the Contractor selects a carrier other than a U.S.-flag air carrier for international air transportation, the Contractor shall include a statement on vouchers involving such transportation essentially as follows:

Statement of Unavailability of U.S.-Flag Air Carriers

International air transportation of persons (and their personal effects) or property by U.S.-flag air carrier was not available or it was necessary to use foreign-flag air carrier service for the following reasons. See FAR § 47.403. [State reasons]:

(End of statement)

e) The Contractor shall include the substance of this clause, including this paragraph (e), in each subcontract or purchase under this contract that may involve international air transportation.

Flow Down Requirements - The Fly America requirements flow down from FTA recipients and subrecipients to first tier contractors who are responsible for ensuring that lower tier contractors and subcontractors are in compliance.

17. Davis-Bacon and Copeland Anti-Kickback Acts.

Authority – Appendix II to Part 200, 49 U.S.C. § 5333(a), 40 U.S.C. §§ 3141 – 3148, 29 C.F.R. part 5, 18 U.S.C. § 874, and 29 C.F.R. part 5 (29 C.F.R. § 5.5), 29 C.F.R. § 3.1 and 3.11, 18 U.S.C. § 874, 40 U.S.C. § 3145, FTA Master Agreement FY2020 at Section 16(d)(4), FTA C 4220.1F at Appendix D

Applicability - Construction contracts and subcontracts, including actual construction, alteration and/or repair, including decorating and painting, over \$2,000.

For all prime construction, alteration or repair contracts in excess of \$2,000 awarded by FTA, the Contractor shall comply with the Davis-Bacon Act and the Copeland “Anti-Kickback” Act. Under 49 U.S.C. § 5333(a), prevailing wage protections apply to laborers and mechanics employed on FTA assisted construction, alteration, or repair projects. The Contractor will comply with the Davis-Bacon Act, 40 U.S.C. §§ 3141-3144, and 3146-3148 as supplemented by DOL regulations at 29 C.F.R. part 5, “Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction.” In accordance with the statute, the Contractor shall pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, the Contractor agrees to pay wages not less than once a week. The Contractor shall also comply with the Copeland “Anti-Kickback” Act (40 U.S.C. § 3145), as supplemented by DOL regulations at 29 C.F.R. part 3, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in part by Loans or Grants from the United States.” The Contractor is prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled.

Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the (write in the name of the Federal agency) may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

Certification of eligibility. (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis–Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis–Bacon Act or 29 CFR 5.12(a)(1). (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

Flow Down Requirements - These requirements extend to all third party contractors and their subcontracts at every tier and subrecipients and their subcontracts at every tier.

18. Contract Work Hours and Safety Standards Act

Authority – Appendix II to Part 200, 40 U.S.C. §§ 3701-3708 and 29 C.F.R. part 1926, FTA Master Agreement FY2020 at Section 16(d)(5), FTA C 4220.1F at Appendix D

Applicability - Contracts over \$100,000 that involve the employment of mechanics or laborers.

For all contracts in excess of \$100,000 that involve the employment of mechanics or laborers, the Contractor shall comply with the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 3701-3708), as supplemented by the DOL regulations at 29 C.F.R. part 5. Under 40 U.S.C. § 3702 of the Act, the Contractor shall compute the wages of every mechanic and laborer, including watchmen and guards, on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. § 3704 are applicable to construction work and provide that no laborer or mechanic be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchase of supplies or materials or articles ordinarily available on the open market, or to contracts for transportation or transmission of intelligence.

In the event of any violation of the clause set forth herein, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, the Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of this clause in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by this clause.

The FTA shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any other Federal contract with the same prime Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime

Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in this section.

The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in this agreement.

Contract Work Hours and Safety Standards for Awards Not Involving Construction

The Contractor shall comply with all federal laws, regulations, and requirements providing wage and hour protections for non-construction employees, in accordance with 40 U.S.C. § 3702, Contract Work Hours and Safety Standards Act, and other relevant parts of that Act, 40 U.S.C. § 3701 et seq., and U.S. DOL regulations, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Non-construction Contracts Subject to the Contract Work Hours and Safety Standards Act),” 29 C.F.R. part 5.

The Contractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three (3) years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid.

Such records maintained under this paragraph shall be made available by the Contractor for inspection, copying, or transcription by authorized representatives of the FTA and the Department of Labor, and the Contractor will permit such representatives to interview employees during working hours on the job.

The contractor shall require the inclusion of the language of this clause within subcontracts of all tiers.

Flow Down Requirements - This requirement flows down to all subcontracts at every tier.

19. Bonding.

Authority - 2 CFR 200.325, FTA Master Agreement FY2020 at Section 16(n), FTA C 4220.1F at Appendix D

Applicability – For all FTA Funded construction or facility improvement contracts or subcontracts exceeding the simplified acquisition threshold (currently \$250,000), the federal awarding agency may accept the bonding policy and requirements of XXX if the federal awarding agency has made a determination that the federal interest is adequately protected.

As per **Section I Bonds & Insurance**, in this solicitation package, a Bid Security in the amount of five percent (5%) of the total Bid price is required. The Contract, if awarded, shall require a Performance Bond and Payment Bond equal to 100% of the contract price from the awarded Contractor. Specific bonding and insurance requirements are set forth in the Solicitation package. Insurance shall be written by an insurer who holds a current Certificate of Authority pursuant to Chapter 624, Florida Statutes, and who has a most recently published rating by A.M. Best & Company of “A” or better.

20. Seismic Safety.

Authority - 42 U.S.C. 7701 et seq., 49 C.F.R. § 41.117 and Executive Order (E.O.) 12699, FTA C 4220.1F at Appendix D

Applicability – Design and construction of new buildings and additions to existing buildings.

Contractor agrees that any new building or addition to an existing building shall be designed and constructed in accordance with the standards required in USDOT Seismic Safety Regulations 49 CFR 41 and shall certify compliance to the extent required by the regulation. Contractor shall also ensure that all work performed under this contract, including work performed by subcontractors, complies with the standards required by 49 CFR 41 and the certification of compliance issued on the project.

Flow Down Requirements - The Seismic Safety requirements flow down from FTA recipients and subrecipients to first tier contractors to assure compliance with the applicable building standards for Seismic Safety, including the work performed by all subcontractors.

21. Public Transportation Employee Protective Arrangements.

Authority - 49 U.S.C. § 5333(b) (“13(c)”) and 29 C.F.R. part 215, FTA Master Agreement FY2020 at Section 24(d)

Applicability - Each contract for transit operations performed by employees of a Contractor recognized by FTA to be a transit operator.

The Contractor agrees to comply with the following employee protective arrangements of 49 U.S.C. § 5333(b):

A. U.S. DOL Certification. Under this Contract or any Amendments thereto that involve public transportation operations that are supported with federal assistance, a certification issued by U.S. DOL is a condition of the Contract.

B. Special Warranty. When the Contract involves public transportation operations and is supported with federal assistance appropriated or made available for 49 U.S.C. § 5311, U.S. DOL will provide a Special Warranty for its Award, including its Award of federal assistance under the Tribal Transit Program. The U.S. DOL Special Warranty is a condition of the Contract.

C. Special Arrangements. The conditions of 49 U.S.C. § 5333(b) do not apply to Contractors providing public transportation operations pursuant to 49 U.S.C. § 5310. FTA reserves the right to make case-by-case determinations of the applicability of 49 U.S.C. § 5333(b) for all transfers of funding authorized under title 23, United States Code (flex funds), and make other exceptions as it deems appropriate, and, in those instances, any special arrangements required by FTA will be incorporated herein as required.

Flow Down Requirements – This requirement flows down to all subcontracts at every tier.

22. Charter Service Operations.

Authority - 49 U.S.C. 5323(d) and (r) and 49 C.F.R. part 604, FTA Master Agreement FY2020 at Section 28

Applicability – all transit operations contracts involving FTA funding under 49 USC 5307, 5309, 5311 or 5316 funds

The contractor agrees to comply with 49 U.S.C. 5323(d), 5323(r), and 49 C.F.R. part 604, which provides that recipients and subrecipients of FTA assistance are prohibited from providing charter service using federally funded equipment or facilities if there is at least one private charter operator willing and able to provide the service, except as permitted under:

1. Federal transit laws, specifically 49 U.S.C. § 5323(d);
2. FTA regulations, “Charter Service,” 49 C.F.R. part 604;
3. Any other federal Charter Service regulations; or
4. Federal guidance, except as FTA determines otherwise in writing.

The contractor agrees that if it engages in a pattern of violations of FTA’s Charter Service regulations, FTA may require corrective measures or impose remedies on it. These corrective measures and remedies may include:

1. Barring it or any subcontractor operating public transportation under its Award that has provided prohibited charter service from receiving federal assistance from FTA;
2. Withholding an amount of federal assistance as provided by Appendix D to part 604 of FTA’s Charter Service regulations; or
3. Any other appropriate remedy that may apply.

The contractor should also include the substance of this clause in each subcontract that may involve operating public transit services.

Flow Down Requirements - The Charter Bus requirements flow down from FTA recipients and subrecipients to first tier service contractors.

23. School Bus Operations.

Authority - 49 U.S.C. 5323(f) and 49 C.F.R. part 605, FTA Master Agreement FY2020 at Section 29

Applicability - Contracts for operating public transportation service.

The contractor agrees to comply with 49 U.S.C. 5323(f), and 49 C.F.R. part 604, and not engage in school bus operations using federally funded equipment or facilities in competition with private operators of school buses, except as permitted under:

1. Federal transit laws, specifically 49 U.S.C. § 5323(f);
2. FTA regulations, “School Bus Operations,” 49 C.F.R. part 605;
3. Any other Federal School Bus regulations; or
4. Federal guidance, except as FTA determines otherwise in writing.

If Contractor violates this School Bus Agreement, FTA may:

1. Bar the Contractor from receiving Federal assistance for public transportation; or
2. Require the contractor to take such remedial measures as FTA considers appropriate.

When operating exclusive school bus service under an allowable exemption, the contractor may not use federally funded equipment, vehicles, or facilities.

The Contractor should include the substance of this clause in each subcontract or purchase under this contract that may operate public transportation services.

Flow Down Requirements - The School Bus requirements flow down from FTA recipients and subrecipients to first tier service contractors.

24. Drug and Alcohol Testing - Substance Abuse Requirements.

Authority - 49 U.S.C. § 5331, 49 C.F.R. part 655 and 49 C.F.R. part 40.11(c), FTA Master Agreement FY2020 at Section 35, FTA C 4220.1F at Appendix D

Applicability – all transit operations contracts

Third party contractors who perform safety-sensitive functions must comply with FTA’s substance abuse management program under 49 C.F.R. part 655, “Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations.” Under 49 C.F.R. § 655.4, Safety-sensitive function means any of the following duties, when performed by employees of recipients, subrecipients, operators, or contractors:

- 1) Operating a revenue service vehicle, including when not in revenue service;
- 2) Operating a nonrevenue service vehicle, when required to be operated by a holder of a Commercial Driver's License;
- 3) Controlling dispatch or movement of a revenue service vehicle;
- 4) Maintaining (including repairs, overhaul and rebuilding) a revenue service vehicle or equipment used in revenue service. This section does not apply to the following: an employer who receives funding under 49 U.S.C. § 5307 or § 5309, is in an area less than 200,000 in population, and contracts out such services; or an employer who receives funding under 49 U.S.C. § 5311 and contracts out such services;
- 5) Carrying a firearm for security purposes.

Additionally, third party contractors providing testing services involving the performance of safety sensitive activities must also comply with 49 C.F.R. part 40, "Procedures for Transportation Workplace Drug and Alcohol Testing Programs."

The Contractor agrees to comply with the following Federal substance abuse regulations:

- (A) Drug-Free Workplace. U.S. DOT regulations, "Drug-Free Workplace Requirements (Grants)," 49 C.F.R. Part 32, that implements the Drug-Free Workplace Act of 1988 as amended, 41 U.S.C. §§ 8103 et seq., and 2 CFR part 182,
- (B) Alcohol Misuse and Prohibited Drug Use. FTA Regulations, "Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations," 49 USC 5331, as amended by Map-21, 49 CFR part 40, 49 USC chapter 53, 49 CFR Part 655, to the extent applicable.

The Contractor shall establish an anti-drug use and alcohol misuse program that includes the following:

- (A) A statement describing the employer's policy on prohibited drug use and alcohol misuse in the workplace, including the consequences associated with prohibited drug use and alcohol misuse. This policy statement shall include all of the elements specified in §655.15. Each employer shall disseminate the policy consistent with the provisions of §655.16.
- (B) An education and training program which meets the requirements of §655.14.
- (C) A testing program, as described in Subparts C and D of this part, which meets the requirements of this part and 49 CFR Part 40.
- (D) Procedures for referring a covered employee who has a verified positive drug test result or an alcohol concentration of 0.04 or greater to a Substance Abuse Professional, consistent with 49 CFR Part 40.

Flow Down Requirements -The Substance Abuse requirements flow down to all third party contractors at every tier who perform a safety-sensitive function for the XXX.

25. Patent and Rights in Data.

Authority - 2 C.F.R. part 200, Appendix II (F) and 37 C.F.R. §401.3, FTA Master Agreement FY2020 at Sections 17 and 18, FTA C 4220.1F at Appendix D

Applicability - Research projects in which FTA finances the purpose of the grant is to finance the development of a product or information. These patent and data rights requirements do not apply to capital projects or operating projects, even though a small portion of the sales price may cover the cost of product development or writing the user's manual or to micro-purchases (less than \$3,500). If the federal award meets the definition of "funding agreement" under 37 C.F.R. § 401.2(a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 C.F.R. part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

Intellectual Property Rights

This Project is funded through a Federal award with FTA for experimental, developmental, or research work purposes. As such, certain Patent Rights and Data Rights apply to all subject data first produced in the performance of this Contract. The Contractor shall grant the Authority intellectual property access and licenses deemed necessary for the work performed under this Agreement and in accordance with the requirements of 37 C.F.R. part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by FTA or U.S. DOT. The terms of an intellectual property agreement and software license rights will be finalized prior to execution of this Agreement and shall, at a minimum, include the following restrictions: Except for its own internal use, the Contractor may not publish or reproduce subject data in whole or in part, or in any manner or form, nor may the Contractor authorize others to do so, without the written consent of FTA, until such time as FTA may have either released or approved the release of such data to the public. This restriction on publication, however, does not apply to any contract with an academic institution. For purposes of this agreement, the term "subject data" means recorded information whether or not copyrighted, and that is delivered or specified to be delivered as required by the Contract. Examples of "subject data" include, but are not limited to computer software, standards, specifications, engineering drawings and associated lists, process sheets, manuals, technical reports, catalog item identifications, and related information, but do not include financial reports, cost analyses, or other similar information used for performance or administration of the Contract.

1. The Federal Government reserves a royalty-free, non-exclusive and irrevocable license to reproduce, publish, or otherwise use, and to authorize others to use for "Federal Government Purposes," any subject data or copyright described below.

For “Federal Government Purposes,” means use only for the direct purposes of the Federal Government. Without the copyright owner’s consent, the Federal Government may not extend its Federal license to any other party.

a. Any subject data developed under the Contract, whether or not a copyright has been obtained; and

b. Any rights of copyright purchased by the Contractor using Federal assistance in whole or in part by the FTA.

2. Unless FTA determines otherwise, the Contractor performing experimental, developmental, or research work required as part of this Contract agrees to permit FTA to make available to the public, either FTA’s license in the copyright to any subject data developed in the course of the Contract, or a copy of the subject data first produced under the Contract for which a copyright has not been obtained. If the experimental, developmental, or research work, which is the subject of this Contract, is not completed for any reason whatsoever, all data developed under the Contract shall become subject data as defined herein and shall be delivered as the Federal Government may direct.

3. Unless prohibited by state law, upon request by the Federal Government, the Contractor agrees to indemnify, save, and hold harmless the Federal Government, its officers, agents, and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from any willful or intentional violation by the Contractor of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction, delivery, use, or disposition of any data furnished under that contract. The Contractor shall be required to indemnify the Federal Government for any such liability arising out of the wrongful act of any employee, official, or agents of the Federal Government.

4. Nothing contained in this clause on rights in data shall imply a license to the Federal Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Federal Government under any patent.

5. Data developed by the Contractor and financed entirely without using Federal assistance provided by the Federal Government that has been incorporated into work required by the underlying Contract is exempt from the requirements herein, provided that the Contractor identifies those data in writing at the time of delivery of the Contract work.

6. The Contractor agrees to include these requirements in each subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance.

Flow Down Requirements - The Patent Rights and Rights in Data requirements flow down to all third party contractors and their contracts at every tier that meet the definition of a research-type project under 37 U.S.C. § 401.2.

26. Special Department of Labor (DOL) EEO clause for Construction Projects.

Authority - Executive Order 11246, 41 CFR § 60-1.4(b), FTA Master Agreement FY2020 at Section 12(d), FTA C 4220.1F at Appendix D

Applicability – Federal or federally assisted construction contracts and subcontracts in excess of \$10,000.

Additional Equal Opportunity Clauses for Construction Contracts.

The equal opportunity clause published at 41 CFR 60-1.4(a) and published at 41 CFR 601.4(b) in accordance with Executive Order 11246, “Equal Employment Opportunity” ([30 FR 12319](#), 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at [41 CFR part 60](#), “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.” are incorporated herein by reference. In addition to those clauses, the following applies to all construction contracts in excess of \$10,000.

(full language follows):

Equal Opportunity Clause

During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's

essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

(4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

Flow Down Requirements - The Special Department of Labor (DOL) EEO clause for Construction Projects requirements flow down to all third party contractors at every tier who perform a safety-sensitive function for the recipient or subrecipient.

27. Disadvantaged Business Enterprises (DBEs).

Authority - 49 C.F.R. part 26, 49 C.F.R. § 26.13(b), FTA Master Agreement FY2020 at Section 12(e)(4)(ii), FTA C 4220.1F at Appendix D

Applicability - all contracts

This contract is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs and with section 1101(b) of SAFETEA LU, 23 U.S.C. §101.

The contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this FTA-assisted contract. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as XXX deems appropriate. Each subcontract the contractor signs with a subcontractor must include the assurance in this paragraph. The successful Bidder/offeror will be required to report its DBE participation obtained through race-neutral means throughout the period of performance.

Flow Down Requirements - The DBE contracting requirements flow down to all third party contractors and their contracts at every tier. Note that it is the XXX's and prime contractor's responsibility to ensure the DBE requirements are applied across the board to all subrecipients/contractors/subcontractors. Should a subcontractor fail to comply with the DBE regulations, FTA would look to the XXX to make sure it intervenes to monitor compliance. The onus for compliance is on the XXX.

28. Recycled Products (Solid Wastes).

Authority - 42 U.S.C. § 6962, 40 C.F.R. part 247, 2 C.F.R. part § 200.323, FTA Best Procurement Practices Manual, FTA C 4220.1F at Appendix D

Applicability –All contracts over \$10,000 for items designated by the EPA Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

1. The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or
2. The contractor has procured \$10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

- a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
- b) Fails to meet reasonable contract performance requirements; or
- c) Is only available at an unreasonable price.

The Contractor agrees to provide a preference for those products and services that conserve natural resources, protect the environment, and are energy efficient by complying with and facilitating compliance with Section 6002 of the Resource Conservation and Recovery Act, as amended, 42 U.S.C. § 6962, and U.S. Environmental Protection Agency (U.S. EPA), “Comprehensive Procurement Guideline for Products Containing Recovered Materials,” 40 C.F.R. part 247.

Flow Down Requirements - These requirements flow down to all applicable subcontracts at all tiers.

29. ADA Access.

Authority – 49 U.S.C. § 5301, 29 U.S.C. § 794, 42 U.S.C. § 12101, FTA Master Agreement FY 2020 at Section 12(h), FTA C 4220.1F at Appendix D-3.

Applicability – all contracts

The Contractor agrees to comply with the requirements of 49 U.S.C. § 5301(d) which expresses the federal policy that the elderly and persons with disabilities have the same right as other persons to use mass transportation service and facilities, and that special efforts shall be made in planning and designing those services and facilities to implement those policies. The Contractor also agrees to comply with all applicable requirements of sections 503 and 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, which prohibits discrimination on the basis of handicaps, and with the Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. §§ 12101 et seq., which requires the provision of accessible facilities and services, and with the following federal regulations, including any amendments thereto: (1) U.S. DOT regulations, “Transportation Services for Individuals with Disabilities (ADA),” 49 C.F.R. Part 37; (2) U.S. DOT regulations, “Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance,” 49 C.F.R. Part 27; (3) Joint U.S. Architectural and Transportation Barriers Compliance Board/U.S. DOT regulations, “Americans With Disabilities (ADA) Accessibility Specifications for Transportation Vehicles,” 36 C.F.R. Part 1192 and 49 C.F.R. Part 38; (4) U.S. DOJ regulations, “Nondiscrimination on the Basis of Disability in State and Local Government Services,” 28 C.F.R. Part 35; (5) U.S. DOJ regulations, “Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities,” 28 C.F.R. Part 36; (6) U.S. GSA regulations, “Accommodations for the Physically Handicapped,” 41 C.F.R. Subpart 101-19; (7) U.S. Equal Employment Opportunity Commission,

“Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act,” 29 C.F.R. Part 1630; (8) U.S. Federal Communications Commission regulations, “Telecommunications Relay Services and Related Customer Premises Equipment for the Hearing and Speech Disabled,” 47 C.F.R. Part 64, Subpart F; and (9) FTA regulations, “Transportation for Elderly and Handicapped Persons,” 49 C.F.R. Part 609; and (10) Any implementing requirements FTA may issue.

Flow Down Requirements - This section applies to subcontractors at all tiers.

30. Veterans Preference.

Authority – 49 USC § 5325(k), FTA Master Agreement FY 2020 at Section 16(u)

Applicability – all contracts

To the extent practicable, the Contractor agrees to give a hiring preference to veterans (as defined in 5 USC § 2108) who have the skills and abilities required to perform construction work required for a capital project supported with funds made available or appropriated for 49 USC chapter 53; provided, however, the Contractor may not give a hiring preference to any veteran over any equally qualified applicant who is a member of any racial or ethnic minority, female, an individual with a disability or a former employee.

Flow Down Requirements – None.

31. Motor Carrier Safety

Authority - FTA Master Agreement, FY2020 Section 33

Applicability - all contracts

Contractor agrees that it will comply with the applicable economic and insurance registration requirements of the:

(1) U.S. Federal Motor Carrier Safety Administration (U.S. FMCSA) regulations, “Minimum Levels of Financial Responsibility for Motor Carriers,” 49 C.F.R. part 387, if it is engaged in operations requiring compliance with 49 C.F.R. part 387, it is engaged in interstate commerce, and it is not within a defined commercial zone;

(2) The provisions of 49 U.S.C. § 31138(e)(4), which supersede inconsistent provisions of 49 C.F.R. part 387, and reduce the amount of insurance the Recipient must obtain to the highest amount required by any state in which the public transportation provider operates, if it operates within a public transportation service area located in more than one state, and receives federal assistance under 49 U.S.C. §§ 5307, 5310, and 5311;

(3) The safety requirements of U.S. FMCSA regulations, “Federal Motor Carrier Safety Regulations,” 49 C.F.R. parts 390 – 397, to the extent applicable; and

(4) The driver's license requirements of U.S. FMCSA regulations, "Commercial Driver's License Standards, Requirements, and Penalties," 49 C.F.R. part 383, and "State Compliance with Commercial Driver's License," 49 C.F.R. part 384, to the extent applicable, with the substance abuse requirements and guidance of U.S. FMCSA's regulations, "Controlled Substances and Alcohol Use and Testing," 49 C.F.R. part 382, and implementing federal guidance, to the extent applicable.

Flow Down Requirements – This requirement flows down to all subcontracts at every tier.

32. Safe Operation of Motor Vehicles.

Authority - FTA Master Agreement, FY2020 Section 34(a)(2) and (b)(iii)

Applicability - all contracts

Contractor is encouraged to adopt and promote on-the-job seat belt use policies and programs for its employees and other personnel that operate company-owned vehicles, company rented vehicles, or personally operated vehicles. The terms "company owned" and "company-leased" refer to vehicles owned or leased either by the Contractor or XXX. Contractor is further encouraged to adopt and enforce workplace safety policies to decrease crashes caused by distracted drivers, including policies to ban text messaging while using an electronic device supplied by an employer, and driving a vehicle the driver owns or rents, a vehicle Contractor owns, leases, or rents, or a privately-owned vehicle when on official business in connection with the work performed under this agreement. Contractor is also encouraged to conduct workplace safety initiatives in a manner commensurate with its size, such as establishing new rules and programs to prohibit text messaging while driving, re-evaluating the existing programs to prohibit text messaging while driving, and providing education, awareness, and other outreach to employees about the safety risks associated with texting while driving.

Flow Down Requirements – This requirement flows down to all subcontracts at every tier.

33. Protection of Sensitive and Personally Identifiable Information

Authority - FTA Master Agreement, FY2020 Section 36(c), US DOT Common Rules

Applicability - all contracts

Contractor must implement reasonable measures to safeguard protected personally identifiable information as well as any information that the FTA or pass-through entity designates as sensitive.

Flow Down Requirements – This requirement flows down to all subcontracts at every tier.

34. Trafficking in Persons

Authority - Section 106(g) of the Trafficking Victims Protection Act of 2000 (TVPA), as amended, 22 U.S.C. § 7104(g); FTA Master Agreement FY 2020 at Section 4(f)

Applicability - all contracts

Contractor agrees that it and its employees that participate in the Contract, may not: Engage in severe forms of trafficking in persons during the period of time that the Contract is in effect, Procure a commercial sex act during the period of time that the Contract is in effect, or Use forced labor in the performance of the Contract or subagreements thereunder. Violation of this provision provides XXX the right to unilaterally terminate the Contract.

Flow Down Requirements – This requirement flows down to all subcontracts at every tier.

35. Federal Tax Liability and Recent Felony Convictions

Authority - 2019 Pub. L 116-6; FTA Master Agreement FY 2020 at Section 4(g), DOT Order 4200.6.

Applicability - all contracts

By submitting a bid or otherwise attempting to enter into a contract with the XXX, the undersigned Contractor certifies that it:

(A) Does not have any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability; and

(B) Was not convicted of the felony criminal violation under any Federal law within the preceding 24 months.

Flow Down Requirements – This requirement flows down to all subcontracts at every tier.

36. Construction Site Safety

Authority - Section 107 of the Contract Work Hours and Safety Standards Act, as amended, 40 U.S.C. § 3704, 40 U.S.C. § 3701 et seq.; U.S. DOL regulations, “Recording and Reporting Occupational Injuries and Illnesses,” 29 C.F.R. part 1904; “Occupational Safety and Health Standards,” 29 C.F.R. part 1910; and “Safety and Health Regulations for Construction,” 29 C.F.R. part 1926, and FTA Master Agreement FY 2020 at Section 24(a)(4)

Applicability - all construction contracts

The Contractor agrees that it will comply with all federal laws, regulations, and requirements providing protections for construction employees involved in the Project or related activities, including the: (i) Section 107 of the Contract Work Hours and Safety Standards Act, as amended, 40 U.S.C. § 3704, and other

relevant parts of that Act, 40 U.S.C. § 3701 et seq.; and (ii) U.S. DOL regulations, “Recording and Reporting Occupational Injuries and Illnesses,” 29 C.F.R. part 1904; “Occupational Safety and Health Standards,” 29 C.F.R. part 1910; and “Safety and Health Regulations for Construction,” 29 C.F.R. part 1926.

Flow Down Requirements – This requirement flows down to all subcontracts at every tier.

37. Domestic Preferences for Procurements

Authority - 2 CFR part 200 Appendix II (L); 2 C.F.R. § 200.322

Applicability - all contracts

As appropriate and to the extent consistent with law, the Contractor should, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this Contract.

Flow Down Requirements – This requirement flows down to all subcontracts at every tier.

38. Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment

Authority - 2 CFR part 200 Appendix II (K); 2 C.F.R. § 200.216

Applicability - all contracts

(a) Definitions. As used in this clause—

Backhaul means intermediate links between the core network, or backbone network, and the small subnetworks at the edge of the network (e.g., connecting cell phones/towers to the core telephone network). Backhaul can be wireless (e.g., microwave) or wired (e.g., fiber optic, coaxial cable, Ethernet).

Covered foreign country means The People’s Republic of China.

Covered telecommunications equipment or services means—

(1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);

(2) For the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);

(3) Telecommunications or video surveillance services provided by such entities or using such equipment; or

(4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Critical technology means—

(1) Defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations;

(2) Items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations, and controlled-

(i) Pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology; or

(ii) For reasons relating to regional stability or surreptitious listening;

(3) Specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities);

(4) Nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material);

(5) Select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part 121 of title 9 of such Code, or part 73 of title 42 of such Code; or

(6) Emerging and foundational technologies controlled pursuant to section 1758 of the Export Control Reform Act of 2018 (50 U.S.C. 4817).

Interconnection arrangements means arrangements governing the physical connection of two or more networks to allow the use of another's network to hand off traffic where it is ultimately delivered (e.g., connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.

Reasonable inquiry means an inquiry designed to uncover any information in the entity's possession about the identity of the producer or provider of covered telecommunications equipment or services used by the entity that excludes the need to include an internal or third-party audit.

Roaming means cellular communications services (e.g., voice, video, data) received from a visited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.

Substantial or essential component means any component necessary for the proper function or performance of a piece of equipment, system, or service.

(b) *Prohibition.* (1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits XXX from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. The Contractor is prohibited from providing to the XXX any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

(2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the XXX on or after August 13, 2020, from entering into a contract, or extending or renewing a contract, with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract.

(c) *Exceptions.* This clause does not prohibit contractors from providing—

(1) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(2) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(d) *Reporting requirement.* (1) In the event the Contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the Contractor is notified of such by a subcontractor at any tier or by any other source, the Contractor shall report the information in paragraph (d)(2) of this clause to the XXX immediately.

Flow Down Requirements – This requirement flows down to all subcontracts at every tier.

39. Bus Testing.

Authority - 49 U.S.C. § 5318(e) and 49 C.F.R. part 665, FTA Master Agreement FY2020 at Section 16(m)

Applicability - Rolling stock, except minivans

Contractor shall comply with 49 USC A5323(c) and FTA's implementing regulation 49 CFR part 665, to the extent they are consistent with 49 U.S.C. § 5318(e), as amended; and shall perform the following: (1) A manufacturer of a new bus model or a bus produced with a major change in components or

configuration shall provide a copy of the final test report to the recipient prior to the recipient's final acceptance of the first vehicle. (2) A manufacturer who releases a report under para. 1 above shall provide notice to the operator of the testing facility that the report is available to the public. (3) If the manufacturer represents that the vehicle was previously tested, the vehicle being sold should have the identical configuration and major components as the vehicle in the test report, which must be provided to the recipient prior to the recipient's final acceptance of the first vehicle. If configuration or components are not identical, the manufacturer shall provide a description of the change and the manufacturer's basis for concluding that it is not a major change requiring additional testing. (4) If the manufacturer represents that the vehicle is "grandfathered" (has been used in mass transit service in the US before Oct. 1, 1988, and is currently being produced without a major change in configuration or components), the manufacturer shall provide the name and address of the recipient of such a vehicle and the details of that vehicle's configuration and major components.

Flow Down Requirements - none.

40. Pre-Award and Post-Delivery Audit Requirements.

Authority - 49 U.S.C. 5323(m) and 49 C.F.R. part 663, FTA Master Agreement FY2020 at Section 16(m)

Applicability - Rolling stock

The Contractor agrees to comply with 49 U.S.C. § 5323(m) and FTA's implementing regulation at 49 C.F.R. part 663. The Contractor shall comply with the Buy America certification(s) submitted with its proposal/bid. The Contractor agrees to participate and cooperate in any pre-award and post-delivery audits performed pursuant to 49 C.F.R. part 663 and related FTA guidance.

Flow Down Requirements – none.

41. FTA Clauses Required when DBE Threshold Has Been Met

Applicability – all contracts where there is DBE Participation

a. Contract Assurance. 49 CFR Part 26.13

The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The Contractor shall carry out applicable requirements of 49 C.F.R. part 26.13 in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the Authority deems appropriate.

Flow Down Requirements - This requirement flows down to all subcontracts at every tier.

b. Monitoring the Performance of other Program Participants. 49 CFR Part 26.37

The XXX will monitor each DOT funded contract with DBE participation to ensure that all work committed to DBEs at contract award or subsequently (as a result of contract modification) is actually performed by the DBEs to which the work was committed. Site visit will be conducted periodically by staff. Contractor's Request for Payment forms will be monitored to ensure that DBEs are being paid in accordance to their signed agreements.

All Prime Contractors will be required to self-report all payments received from the XXX into the B2GNow (Contract Compliance Tracking System). This system tracks payments made to the prime contractor and all payments made by the prime to any subcontractors, to include DBEs, and the timeliness of those payments in accordance to XXX's Prompt Payment Clause.

Flow Down Requirements - This requirement flows down to all subcontracts at every tier.

c. Prompt Payment. 49 CFR part 26.29(a)

Contractors are required to pay all subcontractors for satisfactory performance of their contracts within seven (7) business days from receipt of each payment from the XXX. Failure to comply may result in future withholdings of prime contractor's reimbursements and/or other sanctions until the prime contractor ensure all subcontractors are being promptly paid for all work performed.

Flow Down Requirements - This requirement flows down to all subcontracts at every tier.

d. Return of Retainage. 49 CFR Part 26.29(b), FY2019 FTA Procurement System Review Guide at P11.

Contractor is required to ensure prompt and full payment of retainage to all subcontractors within thirty (30 days) after the subcontractor's work is satisfactorily completed. Contractor is prohibited from holding retainage from subcontractors until the project is completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the XXX. When XXX has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

Flow Down Requirements - This requirement flows down to all subcontracts at every tier.

e. Termination for Convenience (DBE). 49 CFR Part 26.53

No prime contractor will terminate for convenience a DBE subcontractor that was listed and agreed to perform a project task (or an approved substitute DBE firm) and then perform the work of the terminated subcontract with its own forces or those of an affiliate, without prior written consent from XXX's Diversity & Equity Program Office.

The prime contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the prime contractor obtains written consent from XXX's Diversity & Equity Program Office; and unless the consent is provided the contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

Appropriate administrative remedies will be invoked to any Prime Contractor that terminates and/or removes a DBE firm/s for convenience. Those remedies may include requirement to pay terminated DBE firm/s; withholding of future payments and/or retainage; and/or disbarment from future consideration of project awards with the XXX.

Flow Down Requirements - This requirement flows down to all subcontracts at every tier.

Other Federal Requirements

The following requirements are not federal clauses, but apply to all contracts except micro-purchases (\$3,500 or less)

Full and Open Competition.

In accordance with 49 U.S.C. § 5325(a) all procurement transactions shall be conducted in a manner that provides full and open competition.

Prohibition Against Exclusionary or Discriminatory Specifications.

Apart from inconsistent requirements imposed by Federal statute or regulations, the contractor shall comply with the requirements of 49 USC 5323(h)(2) by refraining from using any FTA assistance to support procurements using exclusionary or discriminatory specifications.

Access Requirements for Persons with Disabilities.

Contractor shall comply with 49 USC 5301(d), stating Federal policy that the elderly and persons with disabilities have the same rights as other persons to use mass transportation services and facilities and that special efforts shall be made in planning and designing those services and facilities to implement that policy. Contractor shall also comply with all applicable requirements of Sec. 504 of the Rehabilitation Act (1973), as amended, 29 USC 794, which prohibits discrimination on the basis of handicaps, and the Americans with Disabilities Act of 1990 (ADA), as amended, 42 USC 12101 et seq., which requires that accessible facilities and services be made available to persons with disabilities, including any subsequent amendments thereto.

Notification of Federal Participation.

To the extent required by law, in the announcement of any third party contract award for goods and services (including construction services) having an aggregate value of \$500,000 or more, contractor shall specify the amount of Federal assistance to be used in financing that acquisition of goods and services and to express that amount of Federal assistance as a percentage of the total cost of the third party contract.

Interest of Members or Delegates to Congress.

No members of, or delegates to, the US Congress shall be admitted to any share or part of this contract nor to any benefit arising therefrom.

Ineligible Contractors and Subcontractors.

Any name appearing upon the Comptroller General's list of ineligible contractors for federally-assisted contracts shall be ineligible to act as a subcontractor for contractor pursuant to this contract. If contractor is on the Comptroller General's list of ineligible contractors for federally financed or assisted construction, the recipient shall cancel, terminate or suspend this contract.

Compliance with Federal Regulations.

Any contract entered pursuant to this solicitation shall contain the following provisions: All USDOT-required contractual provisions, as set forth in FTA Circular 4220.1F, are incorporated by reference. Anything to the contrary herein notwithstanding, FTA mandated terms shall control in the event of a conflict with other provisions contained in this Agreement. Contractor shall not perform any act, fail to perform any act, or refuse to comply with any grantee request that would cause the recipient to be in violation of FTA terms and conditions. Contractor shall comply with all applicable FTA regulations, policies, procedures and directives, including, without limitation, those listed directly or incorporated by reference in the Master Agreement between the recipient and FTA, as may be amended or promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract.

Real Property.

Any contract entered into shall contain the following provisions: Contractor shall at all times comply with all applicable statutes and USDOT regulations, policies, procedures and directives governing the acquisition, use and disposal of real property, including, but not limited to, 49 CFR 18.31-18.34, 49 CFR 19.30-19.37, 49 CFR Part 24, 49 CFR 5326 as amended by FAST Act, 49 CFR part 18 or 19, 49 USC 5334, applicable FTA Circular 5010, and FTA Master Agreement, as they may be amended or promulgated during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract.

Access to Services for Persons with Limited English Proficiency.

To the extent applicable and except to the extent that FTA determines otherwise in writing, the Recipient agrees to comply with the policies of Executive Order No. 13166, "Improving Access to Services for Persons with Limited English Proficiency," 42 U.S.C. § 2000d 1 note, and with the provisions of U.S. DOT Notice, "DOT Guidance to Recipients on Special Language Services to Limited English Proficient (LEP) Beneficiaries," 70 Fed. Reg. 74087, December 14, 2005.

Environmental Justice.

Except as the Federal Government determines otherwise in writing, the Recipient agrees to promote environmental justice by following: (1) Executive Order No. 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low- Income Populations," February 11, 1994, 42 U.S.C. § 4321 note, as well as facilitating compliance with that Executive Order, and (2) DOT Order 5610.2, "Department of Transportation Actions To Address Environmental Justice in Minority Populations and Low Income Populations," 62 Fed. Reg. 18377, April 15, 1997, and (3) The most recent and applicable edition of FTA Circular 4703.1, "Environmental Justice Policy Guidance for Federal Transit Administration Recipients," August 15, 2012, to the extent consistent with applicable Federal laws, regulations, and guidance.

Environmental Protections.

Compliance is required with any applicable Federal laws imposing environmental and resource conservation requirements for the project. Some, but not all, of the major Federal laws that may affect the project include: the National Environmental Policy Act of 1969; the Clean Air Act; the Resource Conservation and Recovery Act; the comprehensive Environmental response, Compensation and Liability Act; as well as environmental provisions with Title 23 U.S.C., and 49 U.S.C. chapter 53. The U.S. EPA, FHWA and other federal agencies may issue other federal regulations and directives that may affect the project. Compliance is required with any applicable Federal laws and regulations in effect now or that become effective in the future.

Geographic Information and Related Spatial Data.

Any project activities involving spatial data or geographic information systems activities financed with Federal assistance are required to be consistent with the National Spatial Data Infrastructure promulgated by the Federal Geographic Data Committee, except to the extent that FTA determines otherwise in writing.

Geographic Restrictions.

All project activities must be advertised without geographic preference, (except in A/E under certain circumstances, preference for hiring veterans on transit construction projects and geographic-based hiring preferences as proposes to be amended in 2 CFR Part 1201).

In-State Bus Dealer Restrictions.

The Recipient agrees that any state law requiring buses to be purchased through in-state dealers will not apply to purchases of vehicles supported with federal assistance appropriated or made available for 49 U.S.C. chapter 53, as provided in 49 U.S.C. § 5325(i).

Organizational Conflicts of Interest.

The Recipient agrees that it will not enter into a procurement that involves a real or apparent organizational conflict of interest described as follows: (1) When It Occurs. An organizational conflict of interest occurs when the Project work, without appropriate restrictions on certain future activities, results in an unfair competitive advantage: (a) To that Third Party Participant or another Third Party Participant performing the Project work, and (b) That impairs that Third Party Participant's objectivity in performing the Project work, or (2) Other. An organizational

conflict of interest may involve other situations resulting in fundamentally unfair competitive conditions, (3) Disclosure Requirements. Consistent with FTA policies, the Recipient must disclose to FTA, and each of its Subrecipients must disclose to the Recipient: (a) Any instances of organizational conflict of interest, or (b) Violations of federal criminal law, involving fraud, bribery, or gratuity violations potentially affecting the federal award, and (4) Failure to Disclose. Failure to make required disclosures can result in remedies for noncompliance, including debarment or suspension.

Project Labor Agreements.

As a condition of a third party contract award, the Recipient may require the Third Party Contractor or Subcontractor to have an affiliation with a labor organization, such as a Project Labor Agreement, consistent with Executive Order No. 13502, "Use of Project Labor Agreements for Federal Construction Projects," February 6, 2009 (74 Fed. Reg. 6985).

Force Account.

The Recipient agrees that FTA may determine the extent to which Federal assistance may be used to participate in force account costs.

FTA Technical Review.

The Recipient agrees that FTA may review and approve the Recipient's technical specifications and requirements to the extent FTA believes necessary to ensure proper administration of the Underlying Agreement.

Relationship of the Award to Third Party Contract Approval.

The Recipient agrees that the terms of the Underlying Agreement do not, by themselves, constitute approval of any non- competitive third party contract associated with the Award, unless FTA indicates otherwise in writing.

Federal Single Audit Requirements for State Administered Federally Aid Funded Projects Only.

Non Federal entities that expend \$750,000 or more in a year in Federal awards from all sources are required to comply with the Federal OMB Title 2 CFR Part 200, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards" effective December 26, 2014 as applicable. Non Federal entities that expend Federal awards from a single source may provide a program specific audit, as defined in the Uniform Guidance. Non Federal entities that expend less than the amount above in a year in Federal awards from all sources are exempt from Federal audit requirements for that year, except as noted, whereby records must be available for review or audit by appropriate officials of the cognizant Federal agency and the U.S. Governmental Accountability Office (GAO). Non Federal entities are required to submit a copy of all audits, as described above, within 30 days of issuance of audit report, but no later than 9 months after the end of the entity's fiscal year, to the Florida Department of Transportation. Unless a time extension has been granted by the cognizant Federal Agency and has been filed with the Florida Department of Transportation's Contract Audit Bureau, failure to comply with the requirements of the Uniform Guidance may result in suspension or termination of Federal award payments.

Veterans Preference.

As provided by 49 U.S.C. § 5325(k), to the extent practicable, the Recipient agrees and assures that each of its Subrecipients: (1) Will give a hiring preference to veterans, as defined in 5 U.S.C. § 2108, who have the skills and abilities required to perform construction work required under a third party contract in connection with a Capital Project supported with federal assistance appropriated or made available for 49 U.S.C. chapter 53, and (2) Will not require an employer to give a preference to any veteran over any equally qualified applicant who is a member of any racial or ethnic minority, female, an individual with a disability, or a former employee.

Safe Operation of Motor Vehicles.

The Contractor is encouraged to adopt and promote on-the-job seat belt use policies and programs for its employees and other personnel that operate company-owned vehicles, company rented vehicles, or personally operated vehicles. The terms “company owned” and “company-leased” refer to vehicles owned or leased either by the Contractor or XXX.

The Contractor agrees to adopt and enforce workplace safety policies to decrease crashes caused by distracted drivers, including policies to ban text messaging while using an electronic device supplied by an employer, and driving a vehicle the driver owns or rents, a vehicle Contractor owns, leases, or rents, or a privately-owned vehicle when on official business in connection with the work performed under this agreement.

Catalog of Federal Domestic Assistance (CFDA) Identification Number.

The municipal project sponsor is required to identify in its accounts all Federal awards received and expended, and the Federal programs under which they were received. Federal program and award identification shall include, as applicable, the CFDA title and number, award number and year, name of the Federal agency, and name of the pass through entity.

CFDA number for the Federal Transportation Administration.

Non-urbanized Area Formula (Section 5311) is 20.509. A Recipient covered by the Single Audit Act Amendments of 1996 and OMB Title 2 CFR Part 200, “Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards” (commonly known as Uniform Guidance) agrees to separately identify the expenditures for Federal awards on the Schedule of Expenditures of Federal Awards (SEFA) and the Data Collection Form (SF-SAC) required by OMB Uniform Guidance.

ATTACHMENT A

CERTIFICATIONS

CERTIFICATION OF COMPLIANCE

(EO 1991-24)

The CONTRACTOR certifies and assures the AUTHORITY that upon contract signing income taxes have been filed for the five (5) years previous to this CONTRACT and that no income tax is due to the Commonwealth of Puerto Rico, or that a payment plan is being complied with in all its terms and conditions. This is an essential condition of the present CONTRACT, and if not correct in all or part of the above certified, this shall be sufficient cause for the AUTHORITY to terminate same and the CONTRACTOR must return to the AUTHORITY any and all compensation received under this CONTRACT, in accordance with EXECUTIVE ORDER NUMBER 1991-24.

Signature

Date

Name of Company

CERTIFICATION OF RESTRICTIONS ON LOBBYING

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard -LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of the fact upon which reliance is placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, US Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 for each such failure.

Signature

Date

Title

Firm

BUY AMERICA PROVISION

This procurement is subject to the Federal Transit Administration Buy America Requirements in 49 CFR 661.

A Buy America Certificate, as per the attached format, must be completed and submitted with the bid. A bid, which does not include the certificate, will be considered non-responsive.

A waiver from the Buy America Provision may be sought by (Recipient) if grounds for the waiver exist.

BUY AMERICA CERTIFICATE FOR STEEL OR MANUFACTURED PRODUCTS

The bidder hereby certifies that it will comply with the requirements of Section 165A of the Intermodal Surface Transportation Efficiency Act of 1991 and the regulations at 49 CFR661.

Signature

Date

Title

Firm

OR

(Sign one of the two)

§ 661.6 Certification requirements for procurement of steel or manufactured products.

If steel, iron, or manufactured products (as defined in [§§ 661.3](#) and [661.5 of this part](#)) are being procured, the appropriate certificate as set forth below shall be completed and submitted by each bidder or offeror in accordance with the requirement contained in [§ 661.13\(b\) of this part](#).

Certificate of Compliance with Buy America Requirements

The bidder or offeror hereby certifies that it will comply with the requirements of [49 U.S.C. 5323\(j\)\(1\)](#), and the applicable regulations in [49 CFR part 661](#).

Date

Signature

Company

Name

Title

Certificate of Non-Compliance with Buy America Requirements

The bidder or offeror hereby certifies that it cannot comply with the requirements of [49 U.S.C. 5323\(j\)](#), but it may qualify for an exception to the requirement pursuant to [49 U.S.C. 5323\(j\)\(2\)](#), as amended, and the applicable regulations in [49 CFR 661.7](#).

Date

Signature

Company

Name

Title

LABOR PROVISION

Bidder certifies as to compliance with statutory requirement of 40 United States Code 329 and Regulations set forth at 29 Code Federal Regulations, Part 5.

DATE _____

SIGNATURE _____

TITLE _____

The Following Certification of Integrity must be signed and included in all contracts
between \$50,000-250,000

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary
Exclusion-Lower Tier Covered Transactions**

(1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for Debarment, declared ineligible, or voluntarily excluded from participation on this transaction by any Federal department or agency.

(2) Where the prospective lower tier participant is unable to certify any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Signature

Date

Name

Title

Company

ATTACHMENT B
BID PROTEST PROCEDURES

BID PROTESTS

1. FTA REVIEW OF PROTESTS

a. FTA will only review protests regarding the alleged failure of the grantee to have written protest procedures or alleged failure to follow such procedures.

b. Alleged violations on other grounds are under the jurisdiction of the appropriate State or local administrative or judicial authorities. Alleged violations of a specific Federal requirement that provides an applicable complaint procedure shall be submitted and processed in accordance with that Federal regulation. See e.g., Buy America Requirements, 49 CFR Part 661 (Section 661.15); Participation by Minority Business Enterprise in Department of Transportation Programs, 49 CFR Section 23.73.

c. FTA will only review protests submitted by an interested party as defined in paragraph 3, below.

2. REMEDY. FTA's remedy for a grantee's failure to have written protest procedures or failure to follow such procedures is limited to requiring the grantee to develop such procedures, if necessary, and follow such procedures in reviewing the protest at issue, if the grantee desires FTA financial participation in the contract in question. In instances where a grantee has awarded to another bidder or offeror prior to FTA's decision on the protest, FTA may refuse to participate in funding the contract.

3. DEFINITIONS. For the purposes of this Chapter, the following definitions apply:

a. **"Days"** referee to working days of the Federal Government.

b. **"File" or "submit"** refers to the date of receipt by FTA.

c. **"Interested party" means** an actual or prospective bidder or offeror whose direct economic interest would be affected by the award of the contract or by failure to award the contract.

d. **"Bid"** includes the term "offer" or "proposal" as used in the context of negotiated procurements.

4. TIME FOR FILING.

a. Protestors shall file a protest with FTA not later than five days after a final decision is rendered under the grantee's protest procedure. In instances where that protestor alleges that the grantee failed to make a final determination on the protest, protestors shall file a protest with FTA not later than five days after the protestor knew or should have known of the grantee's failure to render a final determination on the protest.

b. Grantees shall not award a contract for five days following its decision on a bid protest except in accordance with the provisions and limitations of subparagraph h. After five days, the grantee shall confirm with FTA that FTA has not received a protest on the contract in question.

5. SUBMISSION OF PROTEST TO FTA.

a. Protests should be filed with the appropriate FTA Regional Office with a concurrent copy to the grantee.

b. The protest filed with FTA shall:

(1) Include the name and address of the protestor.

(2) Identify the grantee, project number, and the number of the contract solicitation.

(3) Contain a statement of the grounds for protest and any supporting documentation. This should detail the alleged failure to follow protest procedures or the alleged failure to have procedures and be fully supported to the extent possible.

(4) Include a copy of the local protest filed with the grantee and a copy of the grantee's decision, if any.

6. GRANTEE RESPONSE.

a. FTA shall notify the grantee in a timely manner of the receipt of a protest. FTA shall instruct the grantee to notify the contractor of the protest if award has been made or, if no award has been made, to notify all interested parties. The grantee shall instruct all who receive such notice that they may communicate further directly with FTA.

b. The grantee shall submit the following information not later than ten days after receipt of notification by FTA of the protest:

(1) a copy of the grantee's protest procedure:

(2) a description of the process followed concerning the protestor's protest; and

(3) any supporting documentation.

c. The grantee shall provide the protestor with a copy of the above submission.

7. PROTESTOR COMMENTS. The protestor must submit any comments on the grantee's submission not later than ten days after the protestor's receipt of the grantee's submission.

8. WITHHOLDING OF AWARD. When a protest has been timely filed with the grantee before award, the grantee shall not make an award prior to five days after the resolution of the protest, or if a protest has been filed with FTA, during the pendency of that protest, unless the grantee determines that:

- a. The items to be procured area urgently required;
- b. Delivery or performance will be unduly delayed by failure to make the award promptly; or
- c. Failure to make prompt award will otherwise cause undue harm to the grantee or the Federal Government.

In the event that the grantee determines that the award is to be made during the five day period following the local protest decision or the pendency of a protest, the grantee shall notify FTA prior to making such award. FTA will not review the sufficiency of the grantee's determination to award during the pendency of a protest prior to FTA'S bid protest decision. FTA reserves the right not to participate in the funding of any contract awarded during the pendency of a protest.

9. FTA ACTION. Upon receipt of the submissions, FTA will either request further information or a conference among the parties, or will render a decision on the protest.

FTA Act Section 9 (g) (2). Finally, Section 3 (a) (2) (C) prohibits the use of any grant or loan funds to support procurements using exclusionary or discriminatory specifications.

Such discretion is necessary with limited preaward and bid protest review to assure compliance with procurement requirements and standards. The discretion should also assist grantees by reducing FTA's presence in individual procurements and, where called for, limiting review to a specific issue, thereby minimizing the effort needed for a full-scale compliance review.

e. Bid protest procedures. FTA substantially limits its review or bid protests under this circular. In accordance with the Federalism Executive Order, most protest issues are best resolved at the State and local level. Thus, FTA now only accepts protests alleging that a grantee fails to have written protest procedures or has violated such procedures or violation of Federal law or regulation. Interested parties must have the opportunity to present their concerns to the grantee and grantees must have a formal, written process for considering such concerns.

Interested parties that disagree with the grantee's decision then have a formal record with which to proceed to a State or local administrative or judicial authority. If grantees have an appropriate protest process and follow such process, extensive FTA involvement in bid protests is unnecessary.

In accordance with this reduced FTA role, the remedy for a grantee's failure to have or follow its protest procedures is simply to require the grantee to do so, if it desires Federal financial assistance for the contract in question. Consistent with the reduced circumstances of FTA review, the circular also streamlines the review procedure.

f. Grantee Procurement Requirements and Standards. In addition to the major changes reducing FTA's involvement in grantee third party procurement, the circular sets forth Federal requirements applicable to such procurements in Chapter I. The paragraph essentially sets forth the procurement provisions of OMB Circular A-102, making several modifications and additions needed to address special characteristics of the FTA grant program.

Paragraph I-1 delineates the grantee procurements that are subject to the Federal requirements and standards. It clarifies, for grantees receiving operating assistance, that the provisions apply to.

PROTESTS

POLICIES

General

Protesting bidders must submit any protests within five working days (ten working days for competitive negotiation contracts) following the notice of recommended award. No protests received after the fifth working day (or tenth working day in the case of a competitive negotiation contract) will be considered. All protests received from bidders (a "protesting bidders") will be directed to the Director, Purchasing Bureau.

Supported by MBA staff and its consultants and legal counsel, the Director, Purchasing Bureau will submit recommendations in writing to the President and General Manager (P & GM) for review and decision. The P & GM reviews the MBA and consultant's comments and recommendations and renders a final decision in writing. The decision of the P & GM will be final and not subject to appeal.

PROCEDURES

Processing of Protests

- | | | |
|--------------------------------|----|--|
| Director, Purchasing
Bureau | 1. | Receives protest and justification for the protest.
Distributes copies to contracts staff, legal counsel, program director and appropriate MBA and consultant technical staff for review and consideration. |
| | 2. | Notifies recommended bidder and supplies it with a copy of the protest and justification, for comment. Coordinates review of protest. Reviews protest and evaluates its validity. |
| Purchase Awards
Board | 3. | Review protest justification and prepare evaluation and recommendation comments. Prepare evaluation recommendation summary. Submit to Director Purchasing Bureau for handling. |
| Director, Purchasing
Board | 4. | Submits evaluation recommendation to P & GM for review. |
| P & GM | 5. | Review and evaluate protest, protest evaluation and recommendation summary. |
| | 6. | Renders decision. The decision of the P & GM is final and not subject to appeal. |
| | 7. | In all cases: |

- if the decision is to reject the protest, authorizes award of the contract to proceed.
- if the decision is to sustain the protest, directs the Director, Purchasing Bureau to reopen evaluation of bids and responsiveness and responsibility of bidders.

Director, Purchasing
Bureau

8. Notifies protesting bidder and recommended bidder of the P & GM decision and the consequences of that decision under this policy. Where Federal Funds are involved, MBA will not award a contractor five days following its decision on a bid protest, except in accordance with the provisions and limitations in the paragraph below. After five days, MBA will confirm with FTA that FTA has not received a protest on the contract in question.

Withholding Award

When a protest has been timely filed with the MBA before award, MBA will not make an award prior to five days after the resolution of the protest, or if a protest has been filed with FTA during the pendency of that protest, unless the MBA determines that:

- ‰ The items to be procured are urgently required:
 - ‰ Delivery or performance will be unduly delayed by failure to make the award promptly; or
 - ‰ Failure to make prompt award will otherwise cause undue harm to the grantee or the Federal Government.
- In the event MBA determines that the award is to be made during the five days period following the local protest decision or the pendency of a protest, MBA will notify FTA prior to making such award. If the decision is made to award during this time, it should be recognized that FTA reserves the right not to participate in the funding of any contract awarded during the pendency of a protest.

ATTACHMENT C
DBE APPLICATION FORM AC-5716

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM
49 C.F.R. PART 26

UNIFORM CERTIFICATION APPLICATION

ROADMAP FOR APPLICANTS

① Should I apply?

- Is your firm at least 51%-owned by a socially and economically disadvantaged individual(s) who also controls the firm?
- Is the disadvantaged owner a U.S. citizen or lawfully admitted permanent resident of the U.S.?
- Is your firm a small business that meets the Small Business Administration's (SBA's) size standard and does not exceed \$22.41 million in gross annual receipts?
- Is your firm organized as a for-profit business?

⇒ If you answered "Yes" to all of the questions above, you may be eligible to participate in the U.S. DOT DBE program.

② Is there an easier way to apply?

If you are currently certified by the SBA as an 8(a) and/or SDB firm, you may be eligible for a streamlined certification application process. Under this process, the certifying agency to which you are applying will accept your current SBA application package in lieu of requiring you to fill out and submit this form. **NOTE: You must still meet the requirements for the DBE program, including undergoing an on-site review .**

③ Be sure to attach all of the required documents listed in the Documents Check List at the end of this form with your completed application .

④ Where can I find more information?

- U.S. DOT - <http://osdbuweb.dot.gov/business/dbe/index.html> (this site provides useful links to the rules and regulations governing the DBE program, questions and answers, and other pertinent information)
- SBA - <http://www.ntis.gov/naics> (provides a listing of NAICS codes) and <http://www.sba.gov/size/indexableofsize.html> (provides a listing of SIC codes)
- 49 CFR Part 26 (the rules and regulations governing the DBE program)

Under Sec. 26.107 of 49 CFR Part 26, dated February 2, 1999, if at any time, the Department or a recipient has reason to believe that any person or firm has willfully and knowingly provided incorrect information or made false statements, the Department may initiate suspension or debarment proceedings against the person or firm under 49 CFR Part 29, take enforcement action under 49 CFR Part 31, Program Fraud and Civil Remedies, and/or refer the matter to the Department of Justice for criminal prosecution under 18 U.S.C. 1001, which prohibits false statements in Federal programs.

Section 1: CERTIFICATION INFORMATION

A. Prior/Other Certifications

Is your firm currently certified for any of the following programs? <i>(If Yes, check appropriate box(es))</i>	<input type="checkbox"/> DBE	Name of certifying agency:
		Has your firm's state UCP conducted an on-site visit? <input type="checkbox"/> Yes, on ___/___/___ State: _____ <input type="checkbox"/> No _____
	<input type="checkbox"/> 8(a)	⊗ STOP! If you checked either the 8(a) or SDB box, you <u>may not</u> have to complete this application. Ask your state UCP about the streamlined application process under the SBA-DOT MOU.
	<input type="checkbox"/> SDB	

B. Prior/Other Applications and Privileges

Has your firm (under any name) or any of its owners, Board of Directors, officers or management personnel, ever withdrawn an application for any of the programs listed above, or ever been denied certification, decertified, or debarred or suspended or otherwise had bidding privileges denied or restricted by any state or local agency, or Federal entity? <input type="checkbox"/> Yes, on ___/___/___ <input type="checkbox"/> No If Yes, identify State and name of state, local, or Federal agency and explain the nature of the action:

Section 2: GENERAL INFORMATION

A. Contact Information

(1) Contact person and Title:		(2) Legal name of firm:	
(3) Phone #:	(4) Other Phone #:	(5) Fax #:	
(6) E-mail:		(7) Website <i>(if have one)</i> :	
(8) Street address of firm <i>(No P.O. Box)</i> :		City:	County/Parish: State: Zip:
(9) Mailing address of firm <i>(if different)</i> :		City:	County/Parish: State: Zip:

B. Business Profile

(1) Describe the primary activities of your firm:		(2) Federal Tax ID (if any):
(3) This firm was established on ___/___/___		(4) I/We have owned this firm since: ___/___/___
(5) Method of acquisition <i>(check all that apply)</i> : <input type="checkbox"/> Started new business <input type="checkbox"/> Bought existing business <input type="checkbox"/> Inherited business <input type="checkbox"/> Secured concession <input type="checkbox"/> Merger or consolidation <input type="checkbox"/> Other <i>(explain)</i> _____		
(6) Is your firm "for profit"? <input type="checkbox"/> Yes <input type="checkbox"/> No		⊗ STOP! If your firm is NOT for-profit, then you do NOT qualify for this program and do NOT need to fill out this application

(7) Type of firm (check all that apply):

☐ Sole Proprietorship

☐ Partnership

☐ Corporation

☐ Limited Liability Partnership

☐ Limited Liability Corporation

☐ Joint Venture

☐ Other, Describe: _____

(8) Has your firm ever existed under different ownership, a different type of ownership, or a different name?

☐ Yes ☐ No

If Yes, explain: _____

(9) Number of employees: Full-time _____ Part-time _____ Total _____

(10) Specify the gross receipts of the firm for the last 3 years: Year _____ Total receipts \$ _____

Year _____ Total receipts \$ _____

Year _____ Total receipts \$ _____

C. Relationships with Other Businesses

(1) Is your firm co-located at any of its business locations, or does it share a telephone number, P.O. Box, office space, yard, warehouse, facilities, equipment, or office staff, with any other business, organization, or entity?

☐ Yes ☐ No

If Yes, identify: Another Firm's name: _____

Explain nature of shared facilities: _____

(2) At present, or at any time in the past, has your firm:	(a) been a subsidiary of any other firm?	<input type="checkbox"/> Yes <input type="checkbox"/> No
	(b) consisted of a partnership in which one or more of the partners are other firms?	<input type="checkbox"/> Yes <input type="checkbox"/> No
	(c) owned any percentage of any other firm?	<input type="checkbox"/> Yes <input type="checkbox"/> No
	(d) had any subsidiaries?	<input type="checkbox"/> Yes <input type="checkbox"/> No

(3) Has any other firm had an ownership interest in your firm at present or at any time in the past? ☐ Yes ☐ No

(4) If you answered "Yes" to any of the questions in (2)(a) - (d) and/or (3), identify the following for each (attach extra sheets, if needed):

	Name	Address	Type of Business
1.	N/A		
2.			
3.			

D. Immediate Family Member Businesses

Do any of your immediate family members own or manage another company? ☐ Yes ☐ No

If Yes, then list (attach extra sheets, if needed):

	Name	Relationship	Company	Type of Business	Own or Manage?
1.					
2.					

Section 3: OWNERSHIP

Identify all individuals or holding companies with any ownership interest in your firm, providing the information requested below: *(If more than one owner, attach separate sheets for each additional owner)*

A. Background Information

(1) Name:	(2) Title:	(3) Home Phone #:
(4) Home Address <i>(street and number)</i> : _____ City: _____ State: _____ Zip: _____		
(5) Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	(6) Ethnic group membership <i>(Check all that apply)</i> : <input type="checkbox"/> Black <input type="checkbox"/> Hispanic <input type="checkbox"/> Native American <input type="checkbox"/> Asian Pacific <input type="checkbox"/> Subcontinent Asian <input type="checkbox"/> Other <i>(specify)</i> _____	
(7) U.S. Citizen: <input type="checkbox"/> Yes <input type="checkbox"/> No		
(8) Lawfully Admitted Permanent Resident: <input type="checkbox"/> Yes <input type="checkbox"/> No		

B. Ownership Interest

(1) Number of years as owner:	(2) Initial investment to acquire ownership interest in firm: <table style="width: 100%; border: none;"> <tr> <td style="text-align: right;"><u>Type</u></td> <td style="text-align: right;"><u>Dollar Value</u></td> </tr> <tr> <td style="text-align: right;">Cash</td> <td style="text-align: right;">\$</td> </tr> <tr> <td style="text-align: right;">Real Estate</td> <td style="text-align: right;">\$</td> </tr> <tr> <td style="text-align: right;">Equipment</td> <td style="text-align: right;">\$</td> </tr> <tr> <td style="text-align: right;">Other</td> <td style="text-align: right;">\$</td> </tr> </table>	<u>Type</u>	<u>Dollar Value</u>	Cash	\$	Real Estate	\$	Equipment	\$	Other	\$
<u>Type</u>		<u>Dollar Value</u>									
Cash		\$									
Real Estate	\$										
Equipment	\$										
Other	\$										
(3) Percentage owned:											
(4) Familial relationship to other owners:											
(5) Shares of Stock: <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"><u>Number</u></td> <td style="text-align: center;"><u>Percentage</u></td> <td style="text-align: center;"><u>Class</u></td> <td style="text-align: center;"><u>Date acquired</u></td> <td style="text-align: center;"><u>Method Acquired</u></td> </tr> </table>		<u>Number</u>	<u>Percentage</u>	<u>Class</u>	<u>Date acquired</u>	<u>Method Acquired</u>					
<u>Number</u>	<u>Percentage</u>	<u>Class</u>	<u>Date acquired</u>	<u>Method Acquired</u>							
(6) Does this owner perform a management or supervisory function for any other business? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, identify: Name of Business: _____ Function/Title: _____											
(7) Does this owner own or work for any other firm(s) that has a relationship with this firm <i>(e.g., ownership interest, shared office space, financial investments, equipment, leases, personnel sharing, etc.)</i> ? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, identify: Name of Business: _____ Function/Title: _____ Nature of Business Relationship: _____											

C. Disadvantaged Status – NOTE: Complete this section only for each owner applying for DBE qualification (i.e. for each owner claiming to be socially and economically disadvantaged)

(1) What is the Personal Net Worth (PNW) of the owner(s) applying for DBE qualification? <i>(Use and attach the Personal Financial Statement form at the end of this application; attach additional sheets if more than one owner is applying)</i>
(2) Has any trust been created for the benefit of this disadvantaged owner(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, explain <i>(attach additional sheets if needed)</i> :

Section 4: CONTROL

A. Identify your firm's Officers & Board of Directors (If additional space is required, attach a separate sheet):

	Name	Title	Date Appointed	Ethnicity	Gender
(1) Officers of the Company	(a)				
	(b)				
	(c)				
	(d)				
	(e)				
(2) Board of Directors	(a)				
	(b)				
	(c)				
	(d)				
	(e)				

(3) Do any of the people listed in (1) and/or (2) above perform a management or supervisory function for any other business? ☐ Yes ☐ No

If Yes, identify for each: Person: _____ Title: _____
 Business: _____ Function: _____

(4) Do any of the persons listed (1) and/or (2) above own or work for any other firm(s) that has a relationship with this firm (e.g., ownership interest, shared office space, financial investments, equipment, leases, personnel sharing, etc.)? ☐ Yes ☐ No

If Yes, identify for each: Firm Name: _____ Person: _____
 Nature of Business Relationship: _____

B. Identify your firm's management personnel who control your firm in the following areas (If more than two persons, attach a separate sheet):

	Name	Title	Ethnicity	Gender
(1) Financial Decisions (responsibility for acquisition of lines of credit, surety bonding, supplies, etc.)	a.			
	b.			
(2) Estimating and bidding	a.			
	b.			
(3) Negotiating and Contract Execution	a.			
	b.			
(4) Hiring/firing of management personnel	a.			
	b.			
(5) Field/Production Operations Supervisor	a.			
	b.			
(6) Office management	a.			
	b.			
(7) Marketing/Sales	a.			
	b.			
(8) Purchasing of major equipment	a.			
	b.			
(9) Authorized to Sign Company Checks (for any purpose)	a.			
	b.			
(10) Authorized to make Financial Transactions	a.			
	b.			
(11) Do any of the people listed in (1) through (10) above perform a management or supervisory function for any other business?				

☐ Yes ☐ No

If Yes, identify for each: Person: _____ Title: _____
 Business: _____ Function: _____

(12) Do any of the persons listed in (1) through (10) above own or work for any other firm(s) that has a relationship with this firm (e.g., ownership interest, shared office space, financial investments, equipment, leases, personnel sharing, etc.)?
☐ Yes ☐ No

If Yes, identify for each: Firm Name: _____ Person: _____
 Nature of Business Relationship: _____

C. Indicate your firm's inventory in the following categories (*attach additional sheets if needed*):

(1) Equipment

Type of Equipment	Make/Model	Current Value	Owned or Leased?
(a)			
(b)			
(c)			

(2) Vehicles

Type of Vehicle	Make/Model	Current Value	Owned or Leased?
(a)			
(b)			
(c)			

(3) Office Space

Street Address	Owned or Leased?	Current Value of Property or Lease
(a)		
(b)		

(4) Storage Space

Street Address	Owned or Leased?	Current Value of Property or Lease
(a)		
(b)		

D. Does your firm rely on any other firm for management functions or employee payroll? ☐ Yes ☐ No

If Yes, explain:

E. Financial Information

(1) Banking Information:			
(a) Name of bank: _____		(b) Phone No: () _____	
(c) Address of bank: _____		City: _____	State: _____ Zip: _____
(2) Bonding Information: If you have bonding capacity, identify: (a) Binder No: _____			
(b) Name of agent/broker _____		(c) Phone No: () _____	
(d) Address of agent/broker: _____		City: _____	State: _____ Zip: _____
(e) Bonding limit: Aggregate limit \$ _____		Project limit \$ _____	

F. Identify all sources, amounts, and purposes of money loaned to your firm, including the names of any persons or firms securing the loan, if other than the listed owner:

Name of Source	Address of Source	Name of Person Securing the Loan	Original Amount	Current Balance	Purpose of Loan
1.					
2.					
3.					

G. List all contributions or transfers of assets to/from your firm and to/from any of its owners over the past two years (attach additional sheets if needed):

Contribution/Asset	Dollar Value	From Whom Transferred	To Whom Transferred	Relationship	Date of Transfer
1.					
2.					
3.					

H. List current licenses/permits held by any owner and/or employee of your firm (e.g. contractor, engineer, architect, etc.)(attach additional sheets if needed):

Name of License/Permit Holder	Type of License/Permit	Expiration Date	License Number and State
1.			
2.			
3.			

I. List the three largest contracts completed by your firm in the past three years, if any:

Name of Owner/Contractor	Name/Location of Project	Type of Work Performed	Dollar Value of Contract
1.			
2.			
3.			

J. List the three largest active jobs on which your firm is currently working:

Name of Prime Contractor and Project Number	Location of Project	Type of Work	Project Start Date	Anticipated Completion Date	Dollar Value of Contract
1.					
2.					
3.					

AFFIDAVIT OF CERTIFICATION

This form must be signed and notarized for each owner upon which disadvantaged status is relied.

A MATERIAL OR FALSE STATEMENT OR OMISSION MADE IN CONNECTION WITH THIS APPLICATION IS SUFFICIENT CAUSE FOR DENIAL OF CERTIFICATION, REVOCATION OF A PRIOR APPROVAL, INITIATION OF SUSPENSION OR DEBARMENT PROCEEDINGS, AND MAY SUBJECT THE PERSON AND/OR ENTITY MAKING THE FALSE STATEMENT TO ANY AND ALL CIVIL AND CRIMINAL PEALTIES AVAILABLE PURSUANT TO APPLICABLE FEDERAL AND STATE LAW.

I _____ (full name printed), swear or affirm under penalty of law that I am _____ (title) of applicant firm _____ (firm name) and that I have read and understood all of the questions in this application and that all of the foregoing information and statements submitted in this application and its attachments and supporting documents are true and correct to the best of my knowledge, and that all responses to the questions are full and complete, omitting no material information. The responses include all material information necessary to fully and accurately identify and explain the operations, capabilities and pertinent history of the named firm as well as the ownership, control, and affiliations thereof.

I recognize that the information submitted in this application is for the purpose of inducing certification approval by a government agency. I understand that a government agency may, by means it deems appropriate, determine the accuracy and truth of the statements in the application, and I authorize such agency to contact any entity named in the application, and the named firm's bonding companies, banking institutions, credit agencies, contractors, clients, and other certifying agencies for the purpose of verifying the information supplied and determining the named firm's eligibility.

I agree to submit to government audit, examination and review of books, records, documents and files, in whatever form they exist, of the named firm and its affiliates, inspection of its places(s) of business and equipment, and to permit interviews of its principals, agents, and employees. I understand that refusal to permit such inquiries shall be grounds for denial of certification.

If awarded a contract or subcontract, I agree to promptly and directly provide the prime contractor, if any, and the Department, recipient agency, or federal funding agency on an ongoing basis, current, complete and accurate information regarding (1) work performed on the project; (2) payments; and (3) proposed changes, if any, to the foregoing arrangements.

I agree to provide written notice to the recipient agency or Unified Certification Program (UCP) of any material change in the information contained in the original application within 30 calendar days of such change (e.g., ownership, address, telephone number, etc.).

I acknowledge and agree that any misrepresentations in this application or in records pertaining to a contract or subcontract will be grounds for terminating any contract or subcontract which may be awarded; denial or revocation of certification; suspension and debarment; and for initiating action under federal and/or state law concerning false statement, fraud or other applicable offenses.

I certify that I am a socially and economically disadvantaged individual who is an owner of the above-referenced firm seeking certification as a Disadvantaged Business Enterprise (DBE). In support of my application, I certify that I am a member of one or more of the following groups, and that I have held myself out as a member of the group(s) (circle all that apply):

- | | | |
|--|---|--|
| <input type="checkbox"/> Female | <input type="checkbox"/> Black American | <input type="checkbox"/> Hispanic American |
| <input type="checkbox"/> Native American | | <input type="checkbox"/> Asian- Pacific American |
| <input type="checkbox"/> Subcontinent Asian American | | <input type="checkbox"/> Other (specify) _____ |

I certify that I am socially disadvantaged because I have been subjected to racial or ethnic prejudice or cultural bias, or have suffered the effects of discrimination, because of my identity as a member of one or more of the groups identified above, without regard to my individual qualities.

I further certify that my personal net worth does not exceed \$750,000, and that I am economically disadvantaged because my ability to compete in the free enterprise system has been impaired due to diminished capital and credit opportunities as compared to others in the same or similar line of business who are not socially and economically disadvantaged.

I declare under penalty of perjury that the information provided in this application and supporting documents is true and correct.

Executed on _____ (Date)

Signature _____
(DBE Applicant)

NOTARY CERTIFICATE

****For Puerto Rico Use Only****

AFFIDAVIT NO.: _____

SWORN and subscribed before me by _____, of legal age, _____, marital status _____,

Name

Resident of _____

Occupation

_____, SSC# _____ - _____ - _____, known to me personally or whom I have identified by means of

_____. In _____ Puerto Rico this _____ day of _____ 20 ____.

Indicate Id. # of / government issued Id.

Notary Public

DBE UNIFORM CERTIFICATION APPLICATION SUPPORTING DOCUMENTS CHECKLIST

In order to complete your application for DBE certification, you must attach copies of all of the following documents as they apply to you and your firm.

All Applicants

- ☐ Work experience resumes (that include places of ownership/employment with corresponding dates), for all owners and officers of your firm.
- ☐ Personal Financial Statement (form available with this application).
- ☐ Personal tax returns for the past three years, if applicable, for each owner claiming disadvantaged status.
- ☐ Your firm's tax returns (gross receipts) and all related schedules for the past three years.
- ☐ Documented proof of contributions used to acquire ownership for each owner (*e.g. both sides of cancelled checks*).
- ☐ Your firm's signed loan agreements, security agreements, and bonding forms.
- ☐ Descriptions of all real estate (including office/storage space, etc.) owned/leased by your firm and documented proof of ownership/signed leases.
- ☐ List of equipment leased and signed lease agreements.
- ☐ List of construction equipment and/or vehicles owned and titles/proof of ownership.
- ☐ Documented proof of any transfers of assets to/from your firm and/or to/from any of its owners over the past two years.
- ☐ Year-end balance sheets and income statements for the past three years (*or life of firm, if less than three years*); a new business must provide a current balance sheet.
- ☐ All relevant licenses, license renewal forms, permits, and haul authority forms.
- ☐ DBE and SBA 8(a) or SDB certifications, denials, and/or decertification, if applicable.
- ☐ Bank authorization and signatory cards.
- ☐ Schedule of salaries (or other compensation or remuneration) paid to all officers, managers, owners, and/or directors of the firm.
- ☐ Trust agreements held by any owner claiming disadvantaged status, if any.

Partnership or Joint Venture

- ☐ Original and any amended Partnership or Joint Venture Agreements.

Corporation or LLC

- ☐ Official Articles of Incorporation (*signed by the state official*).
- ☐ Both sides of all corporate stock certificates and your firm's stock transfer ledger.
- ☐ Shareholders' Agreement.
- ☐ Minutes of all stockholders and board of directors meetings.
- ☐ Corporate by-laws and any amendments.
- ☐ Corporate bank resolution and bank signature cards.
- ☐ Official Certificate of Formation and Operating Agreement with any amendments (for LLCs).

Trucking Company

- ☐ Documented proof of ownership of the company.
- ☐ Insurance agreements for each truck owned or operated by your firm.
- ☐ Title(s) and registration certificate(s) for each truck owned or operated by your firm.
- ☐ List of U.S. DOT numbers for each truck owned or operated by your firm.

Regular Dealer

- ☐ Proof of warehouse ownership or lease.
- ☐ List of product lines carried.
- ☐ List of distribution equipment owned and/or leased.

NOTE: The specific state UCP to which you are applying may have additional required documents that you must also supply with your application. Contact the appropriate certifying agency to which you are applying to find out if more is required.

INSTRUCTIONS FOR COMPLETING THE DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM UNIFORM CERTIFICATION APPLICATION

NOTE: If you require additional space for any question in this application, please attach additional sheets or copies as needed, taking care to indicate on each attached sheet/copy the section and number of this application to which it refers.

Section 1: CERTIFICATION INFORMATION

A. Prior/Other Certifications

Check the appropriate box indicating for which program your firm is currently certified. If you are already certified as a DBE, indicate in the appropriate box the name of the certifying agency that has previously certified your firm, and also indicate whether your firm has undergone an onsite visit. If your firm has already undergone an onsite visit/review, indicate the most recent date of that review and the state UCP that conducted the review.

NOTE: If your firm is currently certified under the SBA's 8(a) and/or SDB programs, you may not have to complete this application. You should contact your state UCP to find out about a streamlined application process for firms that are already certified under the 8(a) and SDB programs.

B. Prior/Other Applications and Privileges

Indicate whether your firm or any of the persons listed has ever withdrawn an application for a DBE program or an SBA 8(a) or SDB program, or whether any have ever been denied certification, decertified, debarred, suspended, or had bidding privileges denied or restricted by any state or local agency or Federal entity. If your answer is yes, indicate the date of such action, identify the name of the agency, and explain fully the nature of the action in the space provided.

Section 2: GENERAL INFORMATION

A. Contact Information

- (1) State the name and title of the person who will serve as your firm's primary contact under this application.
- (2) State the legal name of your firm, as indicated in your firm's Articles of Incorporation or charter.
- (3) State the primary phone number of your firm.
- (4) State a secondary phone number, if any.
- (5) State your firm's fax number, if any.
- (6) State your firm's or your contact person's email address.
- (7) State your firm's website address, if any.
- (8) State the street address of your firm (i.e. the physical location of its offices -- not a post office box address).
- (9) State the mailing address of your firm, if it is different from your firm's street address.

A. Business Profile

- (1) In the box provided, briefly describe the primary business and professional activities in which your firm engages.
- (2) State the Federal Tax ID number of your firm as provided on your firm's filed tax returns, if you have one. This could also be the Social Security number of the owner of your firm.
- (3) State the date on which your firm was officially established, as stated in your firm's Articles of Incorporation or charter.

- (4) State the date on which you and/or each other owner took ownership of the firm.
- (5) Check the appropriate box that describes the manner in which you and each other owner acquired ownership of your firm. If you checked "Other," explain in the space provided.
- (6) Check the appropriate box that indicates whether your firm is "for profit."

NOTE: If you checked "No," then you do NOT qualify for the DBE program and therefore do not need to complete the rest of this application. The DBE program requires all participating firms be for-profit enterprises.

- (7) Check the appropriate box that describes the legal form of ownership of your firm, as indicated in your firm's Articles of Incorporation. If you checked "Other," briefly explain in the space provided.
- (8) Check the appropriate box that indicates whether your firm has ever existed under different ownership, a different type of ownership, or a different name. If you checked "Yes," specify which and briefly explain the circumstances in the space provided.
- (9) Indicate in the spaces provided how many employees your firm has, specifying the number of employees who work on a full-time and part-time basis.
- (10) Specify the total gross receipts of your firm for each of the past three years, as declared in your firm's filed tax returns.

C. Relationships with Other Businesses

- (1) Check the appropriate box that indicates whether your firm is co-located at any of its business locations, or whether your firm shares a telephone number(s), a post office box, any office space, a yard, warehouse, other facilities, any equipment, or any office staff with any other business, organization, or entity of any kind. If you answered "Yes," then specify the name of the other firm(s) and briefly explain the nature of the shared facilities or other items in the space provided.
- (2) Check the appropriate box that indicates whether at present, or at any time in the past:
 - (a) Your firm has been a subsidiary of any other firm;
 - (b) Your firm consisted of a partnership in which one or more of the partners are other firms;
 - (c) Your firm has owned any percentage of any other firm; and
 - (d) Your firm has had any subsidiaries of its own.
- (3) Check the appropriate box that indicates whether any other firm has ever had an ownership interest in your firm.

- (4) If you answered "Yes" to any of the questions in (2)(a)-(d) or (3), identify the name, address and type of business for each.

D. Immediate Family Member Businesses

Check the appropriate box that indicates whether any of your immediate family members own or manage another company. An "immediate family member" is any person who is your father, mother, husband, wife, son, daughter, brother, sister, grandmother, grandfather, grandson, granddaughter, mother-in-law, or father-in-law. If you answered "Yes," provide the name of each relative, your relationship to them, the name of the company they own or manage the type of business, and whether they own or manage the company.

Section 3: OWNERSHIP

Identify all individuals or holding companies with any ownership interest in your firm, providing the information requested below (if your firm has more than one owner, provide completed copies of this section for each additional owner):

A. Background Information

- (1) Give the name of the owner.
- (2) State his/her title or position within your firm.
- (3) Give his/her home phone number.
- (4) State his/her home (street) address.
- (5) Check the appropriate box that indicates this owner's gender.
- (6) Check the appropriate box that indicates this owner's ethnicity (check all that applies). If you checked "Other," specify this owner's ethnic group/identity not otherwise listed.
- (7) Check the appropriate box to indicate whether this owner is a U.S. citizen.
- (8) If this owner is not a U.S. citizen, check the appropriate box that indicates whether this owner is a lawfully admitted permanent resident. If this owner is neither a U.S. citizen nor a lawfully admitted permanent resident of the U.S., then this owner is NOT eligible for certification as a DBE owner. This, however, does not necessarily disqualify your firm altogether from the DBE program if another owner is a U.S. citizen or lawfully admitted permanent resident and meets the program's other qualifying requirements.

B. Ownership Interest

- (1) State the number of years during which this owner has been an owner of your firm.
- (2) Indicate the dollar value of this owner's initial investment to acquire an ownership interest in your firm, broken down by cash, real estate, equipment, and/or other investment.
- (3) State the percentage of total ownership control of your firm that this owner possesses.
- (4) State the familial relationship of this owner to each other owner of your firm.
- (5) Indicate the number, percentage of the total, class, date acquired, and method by which this owner acquired his/her shares of stock in your firm.
- (6) Check the appropriate box that indicates whether this owner performs a management or supervisory function for any other business. If you checked

"Yes," state the name of the other business and this owner's title or function held in that business.

- (7) Check the appropriate box that indicates whether this owner owns or works for any other firm(s) that has any relationship with your firm. If you checked "Yes," identify the name of the other business and this owner's title or function held in that business. Briefly describe the nature of the business relationship in the space provided.

C. Disadvantaged Status

NOTE: You only need to complete this section for each owner that is applying for DBE qualification (i.e. for each owner who is claiming to be "socially and economically disadvantaged" and whose ownership interest is to be counted toward the control and 51% ownership requirements of the DBE program).

- (1) Indicate in the space provided the total Personal Net worth (PNW) of each owner who is applying for DBE qualification. Use the PNW calculator form at the end of this application to compute each owner's PNW.
- (2) Check the appropriate box that indicates whether any trust has ever been created for the benefit of this disadvantaged owner. If you answered "Yes," briefly explain the nature, history, purpose, and current value of the trust(s).

Section 4: CONTROL

A. Identify your firm's Officers and Board of Directors:

- (1) In the space provided, state the name, title, date of appointment, ethnicity, and gender of each officer of your firm.
- (2) In the space provided, state the name, title, date of appointment, ethnicity, and gender of each individual serving on your firm's Board of Directors.
- (3) Check the appropriate box that indicates whether any of your firm's officers and/or directors listed above performs a management or supervisory function for any other business. If you answered "Yes," identify each person by name, his/her title, the name of the other business in which s/he is involved, and his/her function performed in that other business.
- (4) Check the appropriate box that indicates whether any of your firm's officers and/or directors listed above own or work for any other firm(s) that has a relationship with your firm. If you answered "Yes," identify the name of the firm, the officer or director, and the nature of his/her business relationship with that other firm.

B. Identify your firm's management personnel (by name, title, ethnicity, and gender) who control your firm in the following areas:

- (1) Making of financial decisions on your firm's behalf, including the acquisition of lines of credit, surety bonds, supplies, etc.;
- (2) Estimating and bidding, including calculation of cost estimates, bid preparation and submission;
- (3) Negotiating and contract execution, including participation in any of your firm's negotiations and executing contracts on your firm's behalf;

- (4) Hiring and/or firing of management personnel, including interviewing and conducting performance evaluations;
 - (5) Field/Production operations supervision, including site supervision, scheduling, project management services, etc.;
 - (6) Office management;
 - (7) Marketing and sales;
 - (8) Purchasing of major equipment;
 - (9) Signing company checks (for any purpose); and
 - (10) Conducting any other financial transactions on your firm's behalf not otherwise listed.
 - (11) Check the appropriate box that indicates whether any of the persons listed in (1) through (10) above perform a management or supervisory function for any other business. If you answered "Yes," identify each person by name, his/her title, the name of the other business in which s/he is involved, and his/her function performed in that other business.
 - (12) Check the appropriate box that indicates whether any of the persons listed in (1) through (10) above own or work for any other firm(s) that has a relationship with your firm. If you answered "Yes," identify the name of the firm, the name of the person, and the nature of his/her business relationship with that other firm.
- C. Indicate your firm's inventory in the following categories:**
- (1) **Equipment**
State the type, make and model, and current dollar value of each piece of equipment held and/or used by your firm. Indicate whether each piece is either owned or leased by your firm.
 - (2) **Vehicles**
State the type, make and model, and current dollar value of each motor vehicle held and/or used by your firm. Indicate whether each vehicle is either owned or leased by your firm.
 - (3) **Office Space**
State the street address of each office space held and/or used by your firm. Indicate whether your firm owns or leases the office space and the current dollar value of that property or its lease.
 - (4) **Storage Space**
State the street address of each storage space held and/or used by your firm. Indicate whether your firm owns or leases the storage space and the current dollar value of that property or its lease.
- D. Does your firm rely on any other firm for management functions or employee payroll?**
Check the appropriate box that indicates whether your firm relies on any other firm for management functions or for employee payroll. If you answered "Yes," briefly explain the nature of that reliance and the extent to which the other firm carries out such functions.
- E. Financial Information**
- (1) **Banking Information**
 - (a) State the name of your firm's bank.
 - (b) Give the main phone number of your firm's bank branch.
 - (c) Give the address of your firm's bank branch.
 - (2) **Bonding Information**
 - (a) State your firm's Binder Number.
 - (b) State the name of your firm's bond agent and/or broker.
 - (c) Give your agent's/broker's phone number.
 - (d) Give your agent's/broker's address.
 - (e) State your firm's bonding limits (in dollars), specifying both the Aggregate and Project Limits.
- F. Identify all sources, amounts, and purposes of money loaned to your firm, including the names of persons or firms securing the loan, if other than the listed owner:**
State the name and address of each source, the original dollar amount and the current balance of each loan, and the purpose for which each loan was made to your firm.
- G. List all contributions or transfers of assets to/from your firm and to/from any of its owners over the past two years:**
Indicate in the spaces provided, the type of contribution or asset that was transferred, its current dollar value, the person or firm from whom it was transferred, the person or firm to whom it was transferred, the relationship between the two persons and/or firms, and the date of the transfer.
- H. List current licenses/permits held by any owner or employee of your firm.**
List the name of each person in your firm who holds a professional license or permit, the type of permit or license, the expiration date of the permit or license, and the license/permit number and issuing State of the license or permit.
- I. List the three largest contracts completed by your firm in the past three years, if any.**
List the name of each owner or contractor for each contract, the name and location of the projects under each contract, the type of work performed on each contract, and the dollar value of each contract.
- J. List the three largest active jobs on which your firm is currently working.**
For each active job listed, state the name of the prime contractor and the project number, the location, the type of work performed, the project start date, the anticipated completion date, and the dollar value of the contract.
- I. AFFIDAVIT & SIGNATURE**
Carefully read the attached affidavit in its entirety. Fill in the required information for each blank space, and sign and date the affidavit in the presence of a Notary Public, who must then notarize the form.

**Certification of Social & Economic Disadvantage
PERSONAL NET WORTH**

Complete this form each disadvantaged individual that is an owner of a DBE or applicant firm. Personal assets and liabilities for that individual alone should be shown. Married individuals should show only his or her share of assets and liabilities held jointly or as community property with the individual's spouse.

Name	Business Phone ()
Residence Address	Residence Phone ()
City, State, & Zip Code	Fax
Business Name of Applicant	

DETERMINATION OF SOCIAL DISADVANTAGE

"Socially disadvantaged individuals are those who have been subjected to racial or ethnic prejudice or cultural bias within American society because of their identities as members of groups and without regard to their individual qualities."

I certify that I have read and understand the above statement. I further certify that I have experienced social disadvantage based on discrimination because of my: (mark all that apply) *(This statement is valid only when signed by the individual claiming social disadvantage)*

_____ race _____ ethnicity _____ gender _____ other (Please explain on separate sheet)

Signature:	Owner/Title:
PERSONAL FINANCIAL STATEMENT	As of _____, 20__

ASSETS (Omit Cents)		LIABILITIES (Omit Cents)	
Cash on hand & in Banks.....	\$ _____	Accounts Payable	\$ _____
Savings Accounts	\$ _____	Notes Payable	\$ _____
IRA, 401K, S.E.P., Keogh, or other Retirement Account	\$ _____	(Describe in Section 1)	\$ _____
Accounts & Notes Receivable	\$ _____	Installment Account (Auto)	\$ _____
Life Insurance – Cash Surrender Value Only	\$ _____	Mo. Payments \$ _____	\$ _____
(Complete Section 7)		Installment Account (Other)	\$ _____
Stocks and Bonds	\$ _____	Mo. Payments \$ _____	\$ _____
(Describe in Section 2)		Loan on Life Insurance	\$ _____
Real Estate	\$ _____	Mortgages on Real Estate	\$ _____
(Describe in Section 3)		(Describe in Section 3)	\$ _____
Automotive –Present Value	\$ _____	Unpaid Taxes	\$ _____
Other Personal Property	\$ _____	(Describe in Section 5)	\$ _____
(Describe in Section 4)		Other Liabilities	\$ _____
Other Assets	\$ _____	(Describe in Section 6)	\$ _____
(Describe in Section 4)		Total Liabilities	\$ _____
Total Assets	\$ _____	Net Worth (Total Assets minus Total liabilities)	

Source of Income		Contingent Liabilities	
Salary	\$ _____	As Endorser or Co-Maker	\$ _____
Net Investment Income	\$ _____	Legal Claims & Judgements.....	\$ _____
Real Estate Income	\$ _____	Provision for Federal Income Tax	\$ _____
Other Income (Describe Below)	\$ _____	Other Special Debt	\$ _____

Section 1. **Notes Payable to Bank and Others** (Use attachments if necessary. Each attachment must be identified as a part of this statement and signed.)

Name and Address of Note holder (s)	Original Balance	Current Balance	Payment Amount	Frequency (Monthly, etc.)	How Secured or Endorsed (Type of Collateral)

Section 2. **Stocks and Bonds** (Use attachments if necessary. Each attachment must be identified as a part of this statement and signed).

Number of Shares	Name of Securities	Cost	Market Value	Date of Quotation/Exchange	Total Value

Section 3. Real Estate Owned (List each parcel separately. Use attachments if necessary. Each attachment must be identified as a part of this statement and signed.)			
	Property A	Property B	Property C
Type of Property			
Address			
Date Purchased			
Original Cost			
Present Market Value			
Name & Address of Mortgage Holder			
Mortgage Account Number			
Mortgage Balance			
Section 4. Other Personal Property and Other Assets. (Describe, and if any is pledged as security, state name and address of lien holder, amount of lien, terms of payment, and if delinquent, describe the delinquency).			
Section 5. Unpaid Taxes. (Describe in detail, as to type, to whom payable, when due, amount, and to what property, if any, a tax lien attaches).			
Section 6. Other Liabilities. (Describe in detail).			
Section 7. Life Insurance Held. (Give face amount and cash surrender value of policies – name of insurance company and beneficiaries).			
<p>I authorize the State Highway and Transportation Department to verify the accuracy of the statements made in order to determine whether I meet the standards of economic disadvantage for participation in the DBE Program at the State Highway and Transportation Department. I certify that to the best of my knowledge the information provided is true, accurate and complete.</p>			
<div style="display: flex; justify-content: space-between;"> Signature: _____ Date: _____ Social Security Number: _____ </div>			
<div style="display: flex; justify-content: space-between;"> Date : _____ Authorized Signature _____ Name (Print) _____ </div>			
<div style="display: flex; justify-content: space-between;"> AFFIDAVIT NO. _____ </div>			
<p>SWORN and subscribed before me by _____, of legal age, _____, _____, Resident of _____, SSC# _____, known to me _____, occupation _____, personally or whom I have identified by means of _____. In _____, Puerto Rico this _____ day of _____, 20 _____. Indicate Id. # of / government issued Id. _____</p>			
<div style="border-top: 1px solid black; width: 200px; margin: 0 auto; margin-bottom: 5px;"></div> Notary Public			



Firma Autorizada

Fecha: _____

Nombre Compañía / No. Licitador

[] Negocio privado [] Corporación, o [] Asociación por la presente somete su oferta.

Seguro Social Patronal: _____

Hacemos constar que hemos leído todas las instrucciones, términos, condiciones y cláusulas del pliego de subastas.

La dirección sometida con esta oferta es la dirección donde recibimos nuestra correspondencia.

Yo, el firmante, CERTIFICO que estoy autorizado a firmar esta oferta y mi nombre y firma constan registradas en el Registro de Licitadores.

_____ Nombre en letra de molde	_____ Firma	_____ Puesto o cargo que ocupa
-----------------------------------	----------------	-----------------------------------

Dirección Postal:	Dirección Física:
_____	_____
_____	_____
_____	_____

No. Teléfono y Fax:

Corporacion Foránea		
_____ Nombre del Agente Residente	_____ Dirección	_____ Teléfonos / Fax

Y PARA QUE ASÍ CONSTE, juro y firmo la presente declaración en _____ a _____ de _____ de 20____.

DECLARANTE

Testimonio Número: _____

JURADO Y SUSCRITO ante mí por _____, de las circunstancias personales anteriormente mencionadas y a quien identifico mediante _____, en _____, hoy _____ de _____ de 20_____.



AUTORIZACIÓN DE DUEÑO O SOCIO PRINCIPAL DE NEGOCIO NO INCORPORADO

ESTE FORMULARIO LO CUMPLIMENTARÁN LOS DUEÑOS DE NEGOCIOS NO REGISTRADOS O PARA CAMBIARLA PERSONA AUTORIZADA EN EL REGISTRO ÚNICO DE LICITADORES A FIRMAR OFERTAS

YO, _____ mayor de edad, _____, vecino de _____, Puerto Rico con Seguro Social Patronal _____ - _____ y dueño/socio principal de la empresa _____ que no es una corporación, por la presente AUTORIZO a comparecer en mi representación y la del negocio en las subastad del gobierno del Estado Libre Asociado de Puerto Rico, y me comprometo a honrar los precios ofrecidos por él en estas subastas.

Dado hoy __ de _____ de 20__, en _____, Puerto Rico.

Nombre en letra de molde

Firma

Jurada y suscrita ante mí, la “Autorización para Comparecer en Subastas del gobierno del Estado Libre Asociado de Puerto Rico”, expedida por el declarante cuyas señas han sido mencionadas y a quien doy fe de conocer () personalmente () por dichos, y lo he identificado mediante _____.

En _____, Puerto Rico, a _____ de _____ de 20__.

Abogado-Notario



RESOLUCIÓN CORPORATIVA

Yo _____, mayor de edad, (estado civil) _____, (profesión) _____, y vecino de _____, en calidad de Secretario de la Corporación _____, certifico:

Que la Junta de Directores se reunió en sesión ordinaria celebrada el día _____ de _____ de 20____a la cual asistió el quórum reglamentario y resolvió autorizar a los oficiales nombrados a continuación, para que cualquiera de ellos, a nombre y en representación de esta corporación, puedan comparecer a los procesos de compra de bienes y servicios no profesionales realizados por las agencias de la Rama Ejecutiva del Estado Libre Asociado de Puerto Rico, corporaciones públicas y municipios, así como firmar ofertas y suscribir todo tipo de descuento requerido como parte de dicha comparecencia, por lo que sus firmas, las cuales se hacen constar en este documento, obligan a esta Corporación.

Nombre, firma y posición de persona autorizada a firmar ofertas

Nombre, firma y posición de persona autorizada a firmar ofertas

Nombre, firma y posición de persona autorizada a firmar ofertas

Y PARA QUE ASÍ CONSTE, firmo y sello esta Certificación con el sello de la Corporación, en San Juan, Puerto Rico, hoy _____ de _____ de 20_____.

Secretario de la Corporación

Testimonio Número: _____

JURADA Y SUSCRITA ante mí por _____, mayor de edad, _____ y vecino(a) de _____, en su carácter de Secretario de la Corporación y a quien identifico mediante _____ en _____, Puerto Rico, hoy _____ de _____ de 20_____.

NOTARIO PÚBLICO



AMA-01
HOJA DE OFERTAS

Subasta Informal Núm. 45-2526-003

Nombre de la Empresa:

Nombre del Representante Autorizado:

Dirección Postal:

Teléfono:

Correo Electrónico:

Número de Licitador (RUL)*:

Numero de SAM:

PARTIDA	DESCRIPCIÓN	QTY	UNIT	COSTO UNITARIO	COSTO	TOTAL
A	EXTERIOR AREA					
	1. DEMOLITIONS & REMOVALS					
	A. PANTERS, SOILS & PALMS	190	LF			
	B. PLANTERS, SOILS 7 PALMS	1,161	SF			
	2. CONCRETE WORK					
	A. NEW PLANTER CURB	50	LF			
	B. OUTSIDE CURB	3	CY			
	3. NEW ASPHALT PAVEMENT					
	A. BLACK BASE 4"	800	SF			
	B. TOPPING 2"	800	SF			
	4. SUB-GRADE					
	A. FOR ASPHALT7 WALK	950	SF			
	5. NEW PLANTER					
	A. TOP SOIL	2	CY			
	B. SODDING	200	SF			
	SUB TOTAL "A"					
B	NEW ENTRANCE LANE					
	1. DEMOLITION & DISP.					
	A. REMOVE ASPHALT PAV. & WALK	2,400	SF			
	2. CONCRETE WORK					
	A. CURB & SIDEWALK	1	LS			
	B. NEW WALK (SAN FCO.)	1	LS			
	3. NEW ASPHALT PAVEMENT					
	A. BLACK BASE 4"	1,854	SF			
	B. TOPPING 2"	1,854	SF			
	SUB TOTAL "B"					
C	ORNAMENTAL METALS					
	1. LANE ENTRANCE GATE	1	EA			
	2. PEDESTRIAN GATE	1	EA			
	3. FIXED PANEL 1	1	EA			
	4. FIXED PANEL 2	1	EA			
	5. STEEL POLES 4"	2	EA			
	SUB TOTAL "C"					
D	PAINTING					
	1. LANE DIVISION	1	LS			
	2. EXTERIOR PLANTING	1	LS			
	3. PEDESTRIAN MARK	1	LS			
	4. GATES & PANELS	1	LS			
	5. CURBS	1	LS			
	6. HAND RAMP	1	LS			
	SUB TOTAL "D"					

E	OTHERS				
	1. WARNING MAT	1	EA		
	2. SPEED BUMPS	9	EA		
	SUB TOTAL "E"				
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
	Oferta	<div style="display: flex; justify-content: space-between;"> \$ \$ </div>			
	Precio Adjudicación				
	Si opta por no someter oferta, indique la justificación si desea ser considerado en futuras ocasiones.				

Instrucciones:

- 1 Para cada partida, incluya una breve descripción del bien (incluyendo marca) o servicio solicitado por la AMA para el cual desea someter oferta.
- 2 Indique la unidad y la cantidad ofrecida, así como el costo unitario y el costo unitario en los respectivos campos.
- 3 Multiplique el costo unitario por la cantidad ofrecida y colóquelo en la columna de "costo por partida".
- 4 En la línea de "Especificaciones", describa las características de forma, función o utilidad del bien ofrecido, o alcance de trabajo del servicio no profesional ofrecido. Añada páginas adicionales de ser necesario.
- 5 En la Línea de "Términos y Condiciones", indique si acepta aquellos establecidos en las intrucciones de esta subasta formal. Añada páginas adicionales de ser necesario.
- 6 Coloque el término de cobertura de "Garantía". En la columna de unidad, indique si son meses o años, y en la columna de cantidad, el número.
- 7 En la línea de "Término de Entrega", exprese la unidad (horas, días, meses) y el número bajo la columna de cantidad.
- 8 Recuerde indicar si existe alguna información confidencial o que deba permanecer protegida.
- 9 Al firmar este documento, y someterlo ante la consideración de la AMA, el representante autorizado de la empresa certifica que esta oferta es final y firme.
- 10 Recuerde proveer certificación en caso de reclamar exclusividad de un bien o servicio no profesional.

Firma:





*

En caso de no poseer certificación del RUL, siga las instrucciones dispuestas en la Sección R de las instrucciones de la subasta.