



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

SOLICITUD DE PROPUESTAS SELLADAS
RFP2024-001

**REMODELACIÓN DE LAS NUEVAS FACILIDADES DE LA
OFICINA DE FONDOS FEDERALES
Y PROYECTOS ESPECIALES**

FECHA DE EMISIÓN:
5 DE SEPTIEMBRE DE 2024

FECHA DE REUNIÓN PREPROPUUESTAS:
12 DE SEPTIEMBRE DE 2024; 9:00AM

FECHA DE ENTREGA DE OFERTA:
3 DE OCTUBRE DE 2024; 9:00AM

FECHA DE APERTURA:
3 DE OCTUBRE DE 2024; 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 2024-2025

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Iniciales del Proponente: _____

I. INSTRUCCIONES

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 solicitud de propuestas selladas 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

En la AMA se requiere remodelar las nuevas facilidades de la Oficina de Fondos Federales y Proyectos Especiales.

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 solicitud de propuestas selladas 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

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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 solicitud de propuestas selladas. 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)		5 de septiembre de 2024
Disponibilidad de pliegos		5 de septiembre de 2024
Reunión pre propuesta		12 de septiembre de 2024, 9:00AM
Inspección del proyecto		12 de septiembre de 2024, 10:00AM
Fecha límite para enviar preguntas		19 de septiembre de 2024
Fecha límite para enviar respuestas		26 de septiembre de 2024
Fecha límite para entrega de ofertas	En o antes de:	3 de octubre de 2024, 9:00AM
Acto de Apertura		3 de octubre de 2024, 9:30AM
Período de evaluación de ofertas	De:	3 de octubre de 2024
	Hasta:	18 de octubre de 2024
Aviso de adjudicación*		18 de octubre de 2024
Orden de compra emitida o firma de contrato*		18 de noviembre de 2024
<ul style="list-style-type: none"> Fecha esperada. 		18 de febrero de 2025

- FECHA, HORA DE REUNIÓN PREPROPUUESTAS: La reunión prepropuestas se llevará a cabo el **12 de septiembre de 2024, a las 9:00AM;** 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: **236 603 108 428**, Código de acceso: **qh4BQW**. Puede acceder a:

https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZWJhYmMzMmUtYmUzZi00Mml5LTg0YTktZjl4Y2NmNjl0MGY4%40thread.v2/0?context=%7b%22Tid%22%3a%225696b431-1a4a-4cb0-8385-b20255c0e614%22%2c%22Oid%22%3a%2284a6fa7c-c67f-4c5f-9be7-23a6bf6854a6%22%7d

Esta reunión no es compulsoria.

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- FECHA, HORA DE INSPECCIÓN DEL PROYECTO: La visita de inspección del proyecto se llevará a cabo el **12 de septiembre de 2024, a las 10:00AM**; presencialmente en las oficinas centrales de la AMA, en 37 Ave. De Diego, Urb. San Francisco, Río Piedras, San Juan, Puerto Rico 00927. **La comparecencia a esta inspección es compulsoria.** La incomparecencia de los licitadores a la inspección compulsoria del proyecto será fundamento suficiente para su descalificación. [Sección. 4.4.6, Inciso “r” del Reglamento I-23-01 (9415)].
- FECHA, HORA Y MODO DE ENTREGAR LA OFERTA: Las ofertas deberán ser presentadas en o antes de las **9:00AM del 26 de septiembre de 2024**; en dos maneras, (1) presencialmente en la Oficina de Servicios Generales 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: subastas@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 **26 de septiembre de 2024, a las 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: **233 587 002 121**, Código de acceso **FR82Ne**. Puede acceder a: https://teams.microsoft.com/l/meetup-join/19%3ameeting_OWY0NGRmZmMtODI4ZC00MTk5LWE2ZTgtYzNiZjQ0ZDgzYjdj%40thread.v2/0?context=%7b%22Tid%22%3a%225696b431-1a4a-4cb0-8385-b20255c0e614%22%2c%22Oid%22%3a%2284a6fa7c-c67f-4c5f-9be7-23a6bf6854a6%22%7d

La Apertura tiene como propósito el que las partes interesadas puedan comprobar que las ofertas se recibieron, pero el contenido de las propuestas no se leerá en público. Al momento de abrir las propuestas solamente se anunciará la identidad de los proponentes. Toda persona que asista tendrá que cumplir con las normas de conducta que establezca la Junta de Subastas a tales efectos.

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D. ALCANCE DEL TRABAJO (SCOPE OF WORK)

1.	Remoción de sistema acústico metálico existente.
2.	Remoción y reparación de sistema de ductos de A/C.
3.	Instalación de nuevo sistema de redistribución de ductos A/C para la nueva distribución.
4.	Reparación de ventanas dañadas.
5.	Distribución eléctrica para el nuevo sistema de alumbrado.
6.	Instalación de nuevo sistema de losas acústicas.
7.	Instalación de nuevas lámparas.
8.	Instalación de nuevos difusores y retornos de A/C.
9.	Limpieza y pintado interior.
10.	Limpieza y brillo de losas de pisos.
11.	Corrección y pintado de terminación en ventanas y puertas.
12.	Reparación y corrección de ventanas de cristales.
13.	Reparación y corrección de cerraduras, <i>door closers</i> y tiradores de puertas.
14.	Mover puerta y cristales de pasillo 10'-0" para el frente (hacia la dirección de la recepción).
15.	Instalación de ventanas <i>louver</i> en puertas requeridas.
16.	Instalación de <i>vision panels</i> en puertas requeridas.
17.	Corrección y pintado general de paredes.
18.	Instalación de papel reflectivo en cristales
19.	Remoción e instalación de nuevo gabinete de cocina (<i>kitchenette</i>).
20.	Revisión y/o corrección de interruptores y receptáculos en general.

El proyecto será completado en noventa (90) días calendario.

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DESGLOSE

A. Electricidad			
1.	Lighting Fixtures	33	Ea
2.	Exit Lights	6	Ea
3.	Power Outlets & Switches	1	Ls
4.	Electric Panel	1	Ea
5.	Installations & Misc.	1	Ls
B. Acondicionador de Aire			
1.	New Ducts & Grilles	1	Ls
2.	New Return Grilles	1	Ls
3.	Controls	1	Ls
4.	Balance	1	Ls
5.	Revise A/C Unit 8	1	Ls
6.	Installations & Misc.	1	Ls
C. Arquitectura			
1.	Remove Metal Ceiling	2,700	Sf
2.	New Acoustic Tiles 2' x 2'	3,859	Sf
3.	Repair Glass Windows	1	Ls
4.	New Kitchenette	1	Ea
5.	Plastic Film & Glass	1,383	Sf
6.	Repair Vinyl Tyles & Bases	3,860	Sf
7.	Clean & Polish Vinyl Tiles	3,860	Sf
8.	Painting		
	a. Walls	6,227	Sf
	b. Doors (Wood & Metal)	365	Sf
	c. Glass Frames	1,619	Lf
9.	Review Doors Hard.	1	Ls

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Los licitadores examinarán los planos y 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 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 solicitud de propuestas selladas; 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 que emite le orden de compra) 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

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el procedimiento de la solicitud de propuestas selladas. La fianza tiene que ser en original, y al ser presentada mediante compañía de seguro, en 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 solicitud de propuestas selladas 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 solicitud de propuestas selladas. 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 solicitud de propuestas selladas se requiere una fianza de ejecución de un **cuarenta por ciento (40%)** del total de la oferta.
2. **GARANTÍA:** Los artículos o servicios propuestos estarán garantizados por el período establecido en las especificaciones de esta solicitud de propuestas selladas. En aquellas invitaciones a solicitud de propuestas selladas donde no están especificados, indique en días, meses o años el período que los artículos estarán garantizados. Dicho período de garantía podrá ser determinante en la adjudicación de la buena pro de la solicitud de propuestas selladas. Será responsabilidad de cada licitador proveer los términos de garantías de la mano de obra, de equipos y de materiales para evaluación.
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 solicitud de propuestas selladas.
5. **MUESTRAS:** No son requeridas en esta solicitud de propuestas selladas.

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6. CANTIDADES PARA COMPRAR: La orden de compra emitida, o contrato, indicará los 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.

G. CRITERIOS DE EVALUACIÓN

Por tratarse de una solicitud de propuestas selladas, la Junta de Subastas podrá sostener discusiones y negociar con los proponentes cuyas ofertas estén dentro de los márgenes de selección establecidos. Se entenderá que una oferta está dentro del margen de selección establecido cuando la misma cumple con las especificaciones, términos y condiciones establecidas en el pliego. También 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 solicitud de propuestas selladas. 20%
2. La calidad de los bienes, obras y servicios no profesionales ofrecidos y cómo éstos cumplen con las especificaciones y satisfacen las necesidades establecidas. 15%
3. Si el precio es competitivo y comparable con el prevaleciente en el mercado. 10%

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4. La responsabilidad económica del licitador y las experiencias de la AMA con el cumplimiento de contratos anteriores de naturaleza igual o parecida. 10%
5. El término de entrega de los servicios o bienes más próximo. 10%
6. 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. 10%
7. 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. 15%
8. Cualquier otro criterio pertinente que represente el mejor valor para el Gobierno de Puerto Rico. 10%

H. IMPUGNACIÓN A LA INVITACIÓN O A ESTAS INSTRUCCIONES DE SOLICITUD DE PROPUESTAS SELLADAS

Toda impugnación a la invitación de la solicitud de propuestas selladas deberá presentarse personalmente ante la Junta de Subastas, 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 solicitud de propuestas selladas deberá presentarse personalmente ante la Junta de Subastas, dentro de los tres (3) días subsiguientes a la fecha de la AMA haber hecho disponibles los pliegos de esta solicitud de propuestas selladas. 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: subastas@ama.pr.gov, (ambas formas). En el ASUNTO ("SUBJECT") del correo electrónico que contenga la oferta, debe aparecer la siguiente

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información: **Número de solicitud de propuestas selladas, 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, especificaciones técnicas, planos, 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) Enmiendas (de ser aplicable)
- g) Certificación del Registro Único de Licitadores de la Administración de Servicios Generales
- h) Registración 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 Junta de Subastas 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 licitador habrá de incluir su correo electrónico; las Notificaciones de Adjudicación podrán ser enviadas a dicha dirección electrónica.

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El licitador tendrá que indicar en la oferta la marca y modelo del producto, así como incluir literatura técnica del fabricante, 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 solicitud de propuestas selladas 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, malversación, o apropiación ilegal de fondos, y de los que tenga propio y personal conocimiento, que atañen a un contrato, negocio

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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 acoso, 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 acoso, 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 solicitud de propuestas selladas, 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.

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K. ADVERTENCIAS

- a) La AMA se reserva el derecho de cancelar parcial o total la solicitud de propuestas selladas, 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 solicitud de propuestas selladas 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 solicitud de propuestas selladas, 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 solicitud de propuestas selladas, 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 solicitud de propuestas selladas. 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 del Estado Libre Asociado de Puerto Rico participe de licitaciones en subastas, presente oferta, interese perfeccionar contratos con éstas, tendrá la obligación de divulgar toda

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la información necesaria para que las agencias puedan evaluar detalladamente las transacciones y efectuar determinaciones correctas e informadas.

- g) La AMA no se responsabiliza por los costos incurridos en la preparación de ofertas para esta solicitud de propuestas selladas.
- h) La mera participación en esta solicitud de propuestas selladas no ofrece garantías de que se le ha de adjudicar un contrato u orden de compra. La notificación de adjudicación de la presente solicitud de propuestas selladas 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 solicitud de propuestas selladas, 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 estos pliegos, 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 solicitud de propuestas selladas.
- 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, el secretario de la Junta de Subastas 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.

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- 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 Junta de Subastas 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 propuestas selladas 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.

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O. COMUNICACIONES PROHIBIDAS

Las comunicaciones verbales entre funcionarios (o empleados) de la AMA y potenciales licitadores, con respecto a esta solicitud de propuestas selladas, 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 subastas@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 solicitud de propuestas selladas 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 solicitud de propuestas selladas. Será responsabilidad de la Junta de Subastas 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 solicitud de propuestas selladas al momento de entregar su oferta, lo cual siempre será antes de la apertura de la solicitud de propuestas selladas. 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.

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R. LICITADORES NO REGISTRADOS

Cuando un licitador que no esté registrado en el RUL comparece a un proceso de solicitud de propuestas selladas y presenta una cotización u oferta, la Junta de Subastas no deberá rechazar la misma por el hecho de que dicho licitador no esté en el RUL y le dará cinco (5) días calendario, 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 solicitud de propuestas selladas, las ofertas admisibles serán todo o nada.
- c. NINGUNA OFERTA: Si el licitador no tiene interés en licitar en dicha solicitud de propuestas selladas, deberá devolver el Anejo I (Oferta del Licitador) de la Invitación a solicitud de propuestas selladas, 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 subastas formales 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.

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- 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 solicitud de propuestas selladas, 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 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 Junta de Subastas 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 Junta de Subastas 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.

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X. SOLVENCIA MORAL

La AMA no adjudicará solicitud de propuestas selladas u otorgará contrato alguno para la realización de servicios o la venta o entrega de bienes, a persona natural 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 solicitudes de propuestas selladas 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 solicitud de propuestas selladas 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.

Y. INCUMPLIMIENTO

Si el licitador incumpliera con cualquiera de los términos y condiciones de esta solicitud de propuestas selladas 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.

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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 solicitud de propuestas selladas, 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 solicitud de propuestas selladas impugnada”.

Fin de las Instrucciones

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

Iniciales del Proponente: _____

RFP2024-001
REMODELACIÓN DE LAS FACILIDADES DE LA
OFICINA DE FONDOS FEDERALES Y PROYECTOS ESPECIALES

II. ESPECIFICACIONES TÉCNICAS



DIVISION 000 GENERAL CONDITIONS

GENERAL CONDITIONS

ARTICLE 1 DEFINITIONS

1.1 DEFINITIONS

- 1.1.1 **CONTRACT ITEM OR PAY ITEM.** A portion of work specifically described and for which a price either unit or lump sum is provided. It includes the performance of all work and the furnishing of labor, equipment, and materials described in the specifications.
- 1.1.2 **FORCE ACCOUNT WORK.** Additional work that is paid for on the basis of actual cost plus an established fee.
- 1.1.3 **FEDERAL AGENCY.** Any agency of the government of the United States of America or its succeeding agency.
- 1.1.4 **INSPECTOR.** An authorized representative of the Owner, assigned to make a detailed inspection of performance of any or all portions of the Work as defined at the "Reglamento para la Certificación de Obras y Permisos #12" of ARPE.
- 1.1.5 **LABORATORY.** One or several testing laboratories approved by the Owner for the performance of any tests required under the Contract.
- 1.1.6 **MAJOR AND MINOR CONTRACT ITEMS.** Any item having contract value equal to or greater than (5) per cent of the original contract amount shall be considered as a major item. All the other contract items shall be considered as minor items. A minor item may become a major item when the minor item is increased to the extent that the total cost of the item is equal to or greater than five (5) percent of the original contract amount.
- 1.1.7 **PLANS OR DRAWINGS.** The approved drawings and supplemental drawings that show the location, character, dimensions and details of the Work and which are to be considered an integral part of the Contract Documents.
- 1.1.8 **PROJECT.** The Project is total Construction as designed, of which the Work to be performed under the Contract Documents may be a whole or a part.
- 1.1.9 **RESIDENT ENGINEER OR RESIDENT INSPECTOR.** The authorized representation of the Inspector and the Owner in immediate charge of the inspection forces as defined at the "Reglamento para la Certificación de Obras y Permisos #12" of ARPE.
- 1.1.10 **RIGHT-OF-WAY.** The land, property or interest therein, usually in a strip, acquired or intended for a project or public utility.

- 1.1.11 **SPECIAL CONDITIONS.** Special requirements, regulations or directions covering conditions peculiar to the Project. Special Conditions shall prevail over General Conditions, Technical Specifications and Plans, as applicable.
- 1.1.12 **SUPPLEMENTAL AGREEMENT.** A written agreement executed by the Contractor and the Owner supplementing the contract to cover changes or changes conditions incidental to and necessary for the acceptable completion of the project.
- 1.1.13 **TECHNICAL SPECIFICATIONS OR SPECIFICATIONS.** The directions, provisions and requirements settings forth or relating to the performance of the Work and to the kind and quality of materials and labor to be furnished under the Contract for the execution of the Project, and to the method and manner of evaluating and paying for the Work.
- 1.1.14 **WORK.** The management, supply, construction and installation and other requirements set forth in the Contract Documents, whether completed or partially completed, temporary or permanent, including all labor, materials, tools, equipment, supplies, utilities, subcontracted services and other items provided or to be provided by the Contractor to fulfill each and every one of the Contractor's obligations under the Contract documents. Work includes, and is the result of, performing or furnishing Construction required by the Contract Documents.
- 1.1.15 **CONTRACT LIMITS.** (Property Limits) The portion of the site within which the work is to be performed.
- 1.1.16 **OFF-SITE WORK.** Work to be performed outside of the contract limits.
- 1.1.17 Any other definition needed for the proper interpretation of the contract documents will be in accordance with the definitions stated on the ARPE's "Reglamento para la Certificación de Obras y Permisos".

ARTICLE 2 CONTRACT DOCUMENTS

2.1 DEFINITIONS

- 2.1.1 **THE CONTRACT DOCUMENTS.** The Contract Documents consist of the following component parts:
1. The Agreement, including:
 - a. Performance Bond
 - b. Payment Bond
 - c. Workmen's Compensation Insurance
 - d. Employer Liability
 - e. Comprehensive General and Automobile Liability Insurance
 - f. Builder's Risk all risks form including earthquake
 - g. Installation Floater

2. Dated Contractor's Proposal
3. All Addenda issued prior to execution of the Contract
4. Special Conditions
5. Instructions to Bidders
6. General Conditions
7. Technical Specifications
8. The Drawings

2.1.2 **THE CONTRACT.** The Contract Documents listed above collectively comprise the "Contract". The Contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral, including the Bidding Documents. The Contract may be amended or modified only by a modification as defined in Subsection 2.1.3, below.

2.1.3 A "Contract Modification" is a written amendment to the Contract signed by both parties covering: (i) a Change Order; (ii) an extra Work Order; (iii) a Supplemental Agreement, or (iv) a written interpretation issued by the Supervisor or the Engineer pursuant to Subparagraph 2.2.5 or (v) A Written Order for A Minor Change in the Work issued by the Architect or Engineer, pursuant to Paragraph 13.3. A Contract Modification may only be executed after execution of the Contract by the Contractor and the Owner.

2.2 EXECUTION, CORRELATION, INTENT AND INTERPRETATIONS

2.2.1 The Agreement shall be signed in to less than triplicate by the Owner and Contractor or their authorized representatives. The other component parts of the Contract Documents, if not signed by the Owner or Contractor, shall be identified by their authorized representatives.

2.2.2 By executing the Contract, the Contractor represents and warrants that: (i) it has visited the Site, (ii) it is familiar with the local conditions under which the Work is to be performed, and (iii) has correlated such observations with the requirements of the Contract Documents.

2.2.3 The Contract Documents are complementary, and what is required by any one shall be as binding, as if required by all. The intention of the Contract Documents is to include all labor, materials, resources, equipment and other items as provided in Subsection 5.4.1 that are necessary for the proper execution of the Contract and completion of the Work.

2.2.4 The Contractor shall not be required to supply any work that is not covered under any heading, section, branch, class or trade of the Specifications, unless it is required elsewhere in the Contract Documents. Words which have well-known technical or trade meanings are used herein in accordance with such recognized meanings.

- 2.2.5 The organization of the Specifications into divisions, sections and articles, and the arrangement of the Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any specific trade.
- 2.2.6 Written interpretations necessary for the proper execution or progress of the Work in the form of drawings or otherwise, will be issued with reasonable promptness by the Architect or Engineer and in accordance with the schedule agreed upon. Either party to the Contract may be written request to the Architect or Engineer for such interpretations. Such interpretations shall be consistent with reasonably inferable from the Contract Documents and may be effected by Field Order. Interpretation drawings are not changes in the Work.

2.3 COPIES FURNISHED AND OWNERSHIP

- 2.3.1 Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, six (6) complete sets of Drawings and Specifications reasonably necessary for the execution of the Work. Any additional copies will be subject to reasonable charges by the Owner.
- 2.3.2 All Drawings, Specifications and copies hereof furnished to the Contractor are and shall remain the property of the Owner.

ARTICLE 3 ARCHITECTS OR ENGINEER

3.1 DEFINITION

- 3.1.1 The Architect or the Engineer is the person licensed to practice architecture or engineering in Puerto Rico and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Architect or Engineer means the Architect or Engineer means the Architect or Engineer or his authorized representative.
- 3.1.2 Nothing contained in the Contract Documents shall create any contractual relationship between the Architect or Engineer and the Contractor.

3.2 ADMINISTRATION OF THE CONTRACT

- 3.2.1 The Architect or the Engineer will provide general Administration of the Construction Contract, including performance of the functions hereinafter described.

- 3.2.2 The Architect or the Engineer will be the Owner's representative. The Architect or Engineer will have the authority to act on behalf of the Owner to the extent provided in the Contract Documents, unless otherwise modified by written instrument which will be shown to the Contractor.
- 3.2.3 The Architect or Engineer shall at all times have access to the Work wherever it is in preparation and progress. The Contractor shall provide facilities for such access to the Architect or Engineer may perform his functions under the Contract Documents.
- 3.2.4 The Architect or Engineer will make periodic visits to the site to familiarize himself generally with the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. On the basis of his on-site observations as an architect, or engineer, he will keep the Owner informed of the progress of the Work, and will endeavor to guard the Owner against defects and deficiencies in the Work of the Contractor.
- 3.2.5 Based on such observations and the Contractor's Application for Payment, the Architect or Engineer will determine the amount owed to the Contractor and will issue Certificates for Payment in such amount, as provided in Paragraph 10.3.
- 3.2.6 The Architect or Engineer will be, in the first instance, the interpreter of the requirements of the Contract Documents. The Architect or Engineer will, within a reasonable time, render such interpretations as he may deem necessary for the proper execution or progress of the Work.
- 3.2.7 Claims, disputes and other matters or questions relating to the execution or progress of the Work or the interpretation of the Contract Documents shall be referred initially to the Architect or Engineer for decision which he will render in writing within a reasonable time.
- 3.2.8 All the interpretations and decisions of the Architect or Engineer shall be consistent with the intent of the Contract Documents. In his capacity as interpreter and judge, he will exercise his best efforts to insure faithful performance.
- 3.2.9 All dispute under his contract shall decided by the Architect or Engineer whose decision shall be final and binding, except disputes concerning the cost or amount of claims involving change in contract price, which shall be decided bythe Owner based on the recommendation of the A/E and applying Laws and "Regulations.
- 3.2.10 The Architect or Engineer will have authority to reject Work which does not conform to the Contract Documents. Whenever, in his reasonable opinion, he considers it necessary or advisable to insure the proper implementation of the intent of the Contract Documents, he will have authority to require special inspection or testing of the Work in accordance with Paragraph 8.9 whether or not such Work

be then fabricated, installed or completed. However, neither the Architect's or Engineer's authority to act under this Subparagraph 3.2.10, nor any decision made by him in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the Architect or Engineer to the Contractor, any Subcontractor, any of their agents or employees, or any other person performing any of the Work, nor will the Contractor be relieved from his obligations under the Contracts.

3.2.11 The Architect or Engineer will review Shop Drawings and Samples as provided in Subparagraphs 5.12.1 through 5.12.8 inclusive.

3.2.12 The Architect or Engineer will prepare Change Orders, and Extra Work Orders, in accordance with Article 13.

3.2.13 The Architect or Engineer will conduct joint inspections to determine the dates of Substantial Completion and Final Completion of the Work and will receive and review written guarantees and related documents required by the Contract.

3.2.14 The Architect or Engineer will not be responsible for acts or omissions of the Contractor, or any Subcontractor, or any of their agents or employees, or any other persons performing any of the Work.

3.2.15 The Architect or Engineer shall have the authority to stop the Work wholly or in part when such stoppage is necessary to insure the proper execution of the Contract.

3.2.16 The Engineer may designate one or more assistants or representatives to represent the Engineer as Inspectors of the Work, fully empowered to represent the Engineer in all matters pertaining to the inspection of the Work and, materials furnished by the Contractors and Subcontractors. Such inspection may extend to all or any part of the Work and to preparation or manufacture of the materials to be used therein. In the case of dispute between the Contractor and any Inspector as to materials furnished or the manner or performing the Work, the Inspector shall have the authority to reject materials or suspend the Work until the questionat issued can be referred to and decided by the Engineer. Inspectors are not authorized to alter or waive any requirements of the Contract.

ARTICLE 4 OWNERS

4.1 DEFINITION

4.1.1 OMIT.

4.1.2 The Contracting Officer is the person who may officially be designated by the Owner as his authorized representative for signing the Agreement and providing the functions hereinafter described.

4.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

- 4.2.1 The Owner shall furnish all available information describing the physical characteristics, legal limits and utility locations for the Project.
- 4.2.2 Unless otherwise specified, the Owner will set construction stakes establishing property lines, slopes, continuous profile-grade, centerline, and bench marks for the project, and will furnish the Contractor with all necessary information relating to lines, slopes and grades. These stakes and marks shall constitute the field control by and in accordance with which the Contractor shall establish other necessary controls and perform the Work. The Contractor shall be held responsible for the preservation of all stakes and marks, and if any of the construction stakes or marks have been carelessly or willfully destroyed or disturbed by the Contractor, the cost of replacing them will be charged against him and will be deducted from payment for the work. The Owner will be responsible for the accuracy of lines, slopes grades and other engineering work which is set forth under this section. When the Contractor is required to perform the stake out operations, he shall furnish and set all construction stakes and marks with his own personnel and he shall assume all responsibility for accuracy of staking and for its preservation and replacing until the work is completed. The Owner will provide information regarding references points for location and construction and may, at any time, check the stakes and marks set by the Contractor which, if found in error, shall be reset in the correct location by the Contractor at the Contractor's expense.
- 4.2.3 Information of services under the Owner's control shall be furnished by the Owner with reasonable promptness to avoid delay in the orderly progress of the Work.

4.3 OWNER'S RIGHT TO STOP THE WORK

- 4.3.1 The Owner may order the Contractor to stop the work, or any portion thereof, until the cause for such order has been eliminated, if the Contractor fails to correct defective work, persistently fails to supply materials or equipment in accordance with the Contract Documents, or for any other reason deemed necessary to insure the proper execution of the Contract.

4.4 OWNER'S RIGHT TO CARRY OUT THE WORK WITHOUT TERMINATING THE EMPLOYMENT OF THE CONTRACTOR

- 4.4.1 If the Contractor neglects to carry on the Work in accordance with the Contract Documents or fails to perform any provision of the Contract, the Owner may, after written notice of the Contractor and Surety and without prejudice to any other remedy he may have, make good such deficiencies. In such case, an appropriate deduction shall be made from the payments then or thereafter due to the

Contractor of the cost correcting such deficiencies. If payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

ARTICLE 5 CONTRACTORS

5.1 DEFINITIONS

5.1.1 The Contractor is the person, or organization which whom this Contract is made by the Owner. The term Contractor identified as such in the Agreement means the Contractor or his authorized representative.

5.2 REVIEW OF CONTRACT DOCUMENTS

5.2.1 The Contractor shall carefully study and compare the Contract Documents and shall at once report to the Architect or Engineer any error, inconsistency or omission he may discover. The Contractor shall not be liable to the Owner for any errors, inconsistencies or omissions in the Contract Documents. The Contractor shall take no advantages of any such errors, inconsistencies or omissions. The Architect or Engineer after being notified by the Contractor of such errors, inconsistencies or omissions will make the corrections and interpretations as may be deemed necessary for fulfilling the intent of the Contract Documents.

5.3 SUPERVISION AND CONSTRUCTION PROCEDURES

5.3.1 The Contractor shall supervise and direct the work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequence and procedures and for coordinating all portions of the work under the contract. The Contractor shall give the work the constant attention necessary to facilitate the progress thereof, and shall cooperate with the Architect or Engineer, the Inspectors and other Contractors in every way possible, in order to comply with the Contract Documents.

5.4 LABOR AND MATERIALS

5.4.1 Unless otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, construction equipment and machinery, water, light, power, transportation, superintendence, temporary construction of every nature, utilities, and all other services and facilities of every nature whatsoever necessary to execute, complete and deliver the Work within the contact time.

5.5 WARRANTY

- 5.5.1 The Contractor warrants to the Owner that all materials and equipment furnished under this Contract will be new unless otherwise specified, and that all Work will be of the best quality, free from faults and defects and in conform once with the Contract Documents. If required by the Architect or Engineer the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

5.6 TAXES

- 5.6.1 The Contractor shall pay all sales consumers, use and any other taxes required by law and necessary for the execution and completion of this Contract.

5.7 PERMITS, FEES AND NOTICES

- 5.7.1 The Contractor shall secure and pay for all permits, governmental fees and licenses necessary for the prompt of execution and completion of this Contract, which are applicable at the time the bids are received.

- 5.7.2 The Contractor shall give notice and comply with all Federal, Commonwealth and Municipal laws, ordinances, rules, regulation, by-laws and all orders or decrees as exist at present or may be enacted later by bodies or tribunals having any jurisdiction or authority which in any manner affect those engaged or employed on the work or which in any way affect the progress of the work. The Contractor shall save the Owner and its representatives harmless from any claim or liability arising from or based on the infraction or violation of any such laws, ordinances, rules, regulations, by-laws and all orders or decrees. Should the Contractor observe that the Contract Documents are at variance with any Federal, Commonwealth and Municipal Laws, ordinances, rules, regulations, by-law, and all orders or decrees, he shall promptly notify the owner in writing and the owner shall instruct the Contractor as to his further procedure. In the event of any change in the Contract Documents to, comply with any Federal, Commonwealth and Municipal laws, ordinances, rules, regulation, by laws and all orders or decrees and such change involves a change in the contract price, it will be adjusted as provided in the contract Documents. If the Contractor performs any work knowing it to be contrary to such Federal, Commonwealth and Municipal laws ordinances, rules, regulations, by-laws, and all orders or decrees and without such notice to the owner, the Contractor shall assume full responsibility therefore, and shall bear all costs arising there from.

5.8 SUPERINTENDENT

- 5.8.1 The Contractor shall employ a competent construction superintendent and necessary assistants who shall be in attendance at the Site at all times during the prosecution of the Work (the "Superintendent"). The superintendent shall be satisfactory to the Owner or its representatives and shall not be changed except

with the consent of the Owner, unless the Superintendent proves to be unsatisfactory to the Contract and ceases to be in his employ. The Superintendent shall be invested with authority to act Contractor on all matters that may arise during the prosecution of the Work and all the instructions given to him by the Owner or his authorized representatives shall be as binding as if given directly to the Contractor. Important communications will be so confirmed in writing. Oral communications will be confirmed in writing in each case. The Superintendent shall be furnished by the Contractor irrespective of the total amount of the Work. The Contractor shall, before commencing the Work, submit to the Owner that name qualifications of the Superintendent.

5.9 RESPONSIBILITY FOR THOSE PERFORMING THE WORK

5.9.1 The Contractor shall be responsible to the Owner for he acts and omissions of all of his employees and Subcontractors, their agents and employees and all other persons performing any portion of the Work under an agreement with the Contractor.

5.9.2 The Contractor shall at all time enforce strict discipline and good order among his employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to him.

5.9.3 The Contractor shall rebuild, repair, restore and make good any injuries or damages to any portion of the work before its completion and acceptance, and shall bear the expense thereof, except damage to the work due to unforeseeable causes beyond the control of and without fault or negligence of the Contractor, including but not restricted to acts of God as defined in Article 9, of the public enemy, acts of the government, or partial acceptance by the Owner.

5.9.4 In case of temporary suspension of Work from any cause whatsoever, the Contract shall be responsible for the Project and shall take such reasonable precautions as may be necessary to prevent damage to the Project, provide suitable drainage and erect necessary temporary structures, signs or other facilities, at its expense.

5.10 PROSECUTION AND PROGRESS

5.10.1 Immediately after being awarded the Contract, the Contractor shall deliver to the Owner a construction progress schedule in form satisfactory to the Owner showing the proposed dates of commencement and completion of each of the variation items of the work. This schedule after approved by the Owner shall become a part of the Contract Documents and shall be revised as required by the conditions of the Work, subject to the Owner's approval.

5.10.2 Immediately after receipt of award, the Contractor and the Architect or Engineer will establish a mutually agreeable date on which a preconstruction conference will be held.

5.10.3 After the Contract has been executed, the Contractor will be formally notified to proceed with the work or services provided in the Contract. The Notice to Proceed will stipulate the date in which it is expected the Contractor will begin construction and from which date contract time will be charged.

5.10.4 The Contractor shall start work on the part of the project set forth in the progress schedule, Special Provisions or Drawings, and the work shall be conducted in such manner and with sufficient materials, equipment and labor as considered necessary to insure its completion in accordance with the Contract Documents within the time set forth in the Contract.

5.11 DRAWINGS AND SPECIFICATIONS AT THE SITE

5.11.1 The Contractor shall keep available at the site for the Owner and his representative's one copy of the Contract Documents and all modifications, in good order and marked to record all changes made during construction.

5.12 SHOP DRAWINGS AND SAMPLES

5.12.1 Shop Drawings" are graphic depictions, drawings; diagrams, illustrations, schedules, performance charts, brochures and other data are prepared by the Contractor or any Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

5.12.2 Samples are physical examples furnished by the Contractor to illustrate materials, equipment or workmanship, and to establish standard by which the Work will be judged.

5.12.3 The Contractor shall review, stamp with his approval and submit, with reasonable promptness and in orderly sequence so as to cause no delay in the Work or in the work of any other contractor, all Shop Drawings and Samples required by the Contract Documents or subsequently by the Owner as covered by Contract Modifications. Shop drawings and Samples shall be properly identified as specifically as the Owner may require. At the time of submission, the contractor shall inform the Owner in writing of any deviation in the Shop Drawings or Samples from the requirements of the Contract Documents.

5.12.4 By approving and submitting Shop Drawings and Samples, the Contractor thereby represents that it has determined and verified all field measurements, field construction criteria, materials, catalog numbers and similar data, or will do so, and that it has verified and coordinated each Shop drawing and Sample with the requirements of the Work and the contract Documents.

5.12.5 The Owner, through the Engineer and the Supervisor, will review and approved Shop Drawings and Sample with reasonable promptness so as to cause no delay, but only for conformance with the designed concept of the Project and with the information given in the Contract Documents. The Owner's approval of a separate item shall not indicate approval of an assembly in which the item functions.

5.12.6 The Contractor shall make any corrections required by the Engineer and shall resubmit the required number of corrected copy of Shop drawings or new Samples until approved. The Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections requested by the Engineer on previous submissions.

5.12.7 The Owner's approval of Shop Drawings or Samples shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents, unless the Contractor has informed the Owner in writing of such deviation, nor shall the Owner's approval relieve the Contractor from responsibility for errors or omissions in The Shop Drawings or Samples.

5.12.8 No portion of the Work requiring a Shop Drawing or Sample submission shall be commenced until the submission has been approved by the Owner. All such portions of the Work shall be in accordance with approved Shop Drawings and Samples.

5.13 USE OF SITE

5.13.1 The Contractor shall confine operations at the Site areas permitted by Applicable Laws and the Contract Documents and shall not unreasonably encumber the Site with any materials or equipment.

5.14 CUTTING AND PATCHING OF WORK

5.14.1 Except as may be provided elsewhere, the Contractor shall do all cutting, fitting or patching of the Work as may be required to make its several parts fit together properly, and shall not endanger any portion of the Work by cutting, excavating or otherwise altering the Work or any part of it.

5.15 CLEANING UP

5.15.1 The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work he shall remove all his waste materials and rubbish from and about the Project as well as his tools, construction equipment, machinery and surplus materials, and shall clean all glass surfaces and leave the Work "broom-clean", or its equivalent, except as otherwise specified.

5.15.2 If the Contractor fails to clean up, the Owner may do so and the cost thereof shall be charged to the Contractor as provided in Paragraph 4.4.

5.16 INDEMNIFICATION

5.16.1 The Contractor, for itself, its agents, employees, successors and assigns, agrees to protect, indemnify and save the Owner, its officers, agents, employees, successors and assigns harmless from every kind and character of damages, losses. Expenses, demands, claims, actions or causes of actions together with any and all losses, costs or expenses in connection therewith or related thereto, asserted by any person or persons arising or in any manner growing out of or incident to the Work performed or to be performed and operations to be conducted by the Contractor, its officers, agents and employees, and its subcontractors, its officers, agents and employees or any other persons, firm or corporation whatsoever under this contract or account of personal injuries, including death, and damages to property of every kind and character arising from any cause whatsoever, whether such injuries, death or damage result from or are claimed to have resulted from, the negligence of the Contractor, its officers, agents or employees, or the subcontractors, their officers, agents or employees, or whether resulting from alleged to have resulted from, concurrent negligence of the Owner, its officers, agents or employees and the Contractor, its officer, agents or employees and/or the subcontractors, their officers, agents or employees; and the Contractor at his own expense, shall defend any suit or action brought against the Owner based on any such alleged injury, death or damage and shall pay all damages, costs and expenses including attorney's fees, in connection therewith or in any manner resulting there from.

5.16.2 The policy shall be specifically endorsed to cover the liability assumed by the named insured under the contract, and shall quote the above "Save Harmless" clause.

5.16.3 The limits of insurance for this coverage shall be the same as for the Comprehensive General Liability Policy.

ARTICLE – 6 SUBCONTRACTORS

6.1 DEFINITION

6.1.1 A Subcontractor is a person or organization who has a direct contract with the Contractor to perform any of the work at the site. The term Subcontractor as referred throughout the Contract Documents means the Subcontractor or his authorized representative.

6.1.2 A "Sub-subcontractor" is a person or organization who has a direct or indirect contract with a Subcontractor to perform any Work at the site. The term Sub-subcontractor as referred throughout the Contract Documents means the Sub-contractor or his authorized representative.

6.1.3 Nothing contained in the Contract Documents and specifically in this Article 6 shall create any contractual relationship or obligation between the Owner and any Subcontractor or Sub-subcontractor.

6.2 AWARD OF SUBCONTRACTS FOR PORTIONS OF THE WORK

6.2.1 Unless otherwise specified in the Contract Documents, the Contractor, as soon as practicable after the award of the Contract, shall furnish to the Owner in writing for his acceptance a list of the names of the Subcontractors proposed for the principal portions of the Work. The Owner shall promptly notify the Contractor in writing if, after due investigation, has reasonable objection to any Subcontractor on such list and does not accept him. If within fifteen (15) days from submittal by the Contractor, the Owner or the Engineer fails to make object to any Subcontractor on the list, it shall constitute acceptance of such Sub- contractor.

6.2.2 The Contractor shall not contract with any Subcontractor or any person or organization (including those who are to furnish materials or equipment fabricated to a special design) proposed for portions of the Work designated in the Contract Documents or, if none is so designated, with any Subcontractor proposed for the principal portions of the Work who has been rejected by the Owner.

6.2.3 If the Owner refuses to accept any Subcontractor or person or organization on a list by the Contractor in response to the requirements of the Contract Documents the Contractor shall submit an acceptable substitute. No increase in the Contract Price or the Contract Time shall be granted for any such substitution.

6.2.4 The Contractor shall not make any substitution any Subcontractor who has been accepted by the Owner, unless the substitution is acceptable by the Owner.

6.2.5 Unless otherwise specified, the Contractor's own forces shall no less than fifty (50) percent of the original Contract Price. Any items designated in the Contract Documents as "Specialty Items" shall be deducted from Contact Price before computing the amount of the work required to be performed by the Contractor with his own organization.

6.3 SUBCONTRACTUAL RELATIONS

6.3.1 All work performed for the Contractor by a Subcontractor shall be conducted pursuant to an appropriate agreement between the Contractor and the Subcontractor (and where appropriate between Subcontractors and Subcontractors) which shall, at a minimum, contain provisions that:

.1 Preserve and protect the rights of the Owner under the Contract with respect to the Work to be performed under the Subcontract so that the subcontracting thereof will not prejudice such rights.

.2 Require such Work to be performed in accordance with the requirements of the Contract Documents.

.3 Require submission to the Contractor of applications for payment under each subcontract to which the Contract is a party, in reasonable time to enable the Contract to apply for payment in accordance with Article 8, below.

.4 Require that all claims for additional costs, extensions of time, damages for delays or otherwise with respect to subcontracted portions of the Work shall be submitted to the Contractor (via any Subcontractor or Sub-subcontractor where appropriate) in sufficient time so that the Contractor may comply in the manner provided in the Contract Documents for similar claims by the Contractor upon the Owner.

.5 Waive all rights the contracting parties may have against one another for damages caused by fire or other perils covered by the property insurance described in Section 10.5, except such insurance held by the Owner as trustee under Section 10.5; and

.6 Obligate each Subcontractor specifically to consent to the provisions of this Section.

6.4 PAYMENT TO SUBCONTRACTORS

6.4.1 The Contractor shall pay each Subcontractor upon receipt of payment from the Owner, an amount equal to the percentage of completion allowed to the Contractor on account of such Subcontractor's Work, less the percentage retained from payments to the Contractor. The Contractor shall also require each Subcontractor to make similar payments to his subcontractors.

6.4.2 If the Owner fails to issue a Certificate for Payment due to any of the Contractors and not the fault of a particular Subcontractor, the Contractor shall pay that Subcontractor on demand, made at any time after the Certificate for Payment should otherwise have been issued, for his Work completed, less the retained percent- age.

6.4.3 The Contractor shall pay each Subcontractor a just share of any insurance moneys received by the Contractor under Article 12, and it shall require each Subcontractor to make similar payments to its subcontractors.

6.4.4 The Owner may, on request and at his discretion, furnish to any Subcontractor, if practicable, information regarding percentage of completion certified to the Contractor on account of Work performed by such Subcontractors.

6.4.5 The Owner shall not have any obligation to pay or to see to the payment of any moneys to any Subcontractor except as may otherwise be required by law.

ARTICLE 7 SEPARATE CONTRACTS

7.1 OWNERS RIGHT TO AWARD SEPARATE CONTRACTS

- 7.1.1 The Owner reserves the right to award other contracts in connection with other portions of the Project under these or similar Conditions of the Contract.
- 7.1.2 When separate contracts are awarded for different portions of the Project, "The Contractor" in the Contract Documents in each case shall be the contractor who signs each separate contract.

7.2 MUTUAL RESPONSIBILITY OF CONTRACTORS

- 7.2.1 The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall properly connect and coordinate his Work with theirs.
- 7.2.2 If any part of the Contractor's Work depends for proper execution or results upon the work of any other separate contractor the Contractor shall inspect and promptly report to the Architect or Engineer any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor so to inspect and report shall constitute acknowledgement that the other contractor's work is suitable to receive his Work, except as to defects which may develop in the other separate contractor's work after the execution of the Contractor's Work. Nothing in this subparagraph shall, however, make the Contractor responsible for the acceptability of other Contractor's Work.
- 7.2.3 Should the Contractor cause damage to the work or property of any separate contractor on the Project, the Contractor shall, upon due notice, settle with such other contractor by agreement or arbitration, if he will so settle. If such other contractor by agreement or arbitration, if he will so settle. If such separate contractorsues the Owner or initiates an arbitration proceeding on account of any damage alleged to have been so sustained, the Owner shall notify the Contractor who shall defend such proceedings at the Owner's expense; and if any judgment or award against the Owner arises there from the Contractor shall pay or satisfy it and shall reimburse the Owner for all attorney's fees and court or arbitration costs which the Owner has incurred.

7.3 CUTTING AND PATCHING UNDER SEPARATE CONTRACTS

- 7.3.1 Each contractor under separate contracts shall be responsible for any cutting, fitting and patching that may be required to complete his Work except as otherwise specifically provided in the Contract Documents. A Contractor shall not endanger any work of any other contractors by cutting, excavating or otherwise altering any work and shall not cut or alter the work of any other contractor except with written consent of the Architect or Engineer.

7.3.2 Any costs caused by defective or ill-timed work shall be borne by the party responsible therefore.

7.4 OWNER'S RIGHT TO CLEAN UP

7.4.1 If a dispute arises between the separate contractors as to their responsibility for cleaning up as required by Paragraph 5.5, the Owner may clean up and charge the cost thereof to several contractors as the Architect or Engineer shall determine to be just.

ARTICLE 8 MISCELLANEOUS PROVISIONS

8.1 GOVERNING LAW

8.1.1 The Contract shall be governed by the laws of the Commonwealth of Puerto Rico.

8.2 SUCCESSORS AND ASSINGS

8.2.1 The Owner and the Contractor each binds himself, his partners, successors, assigns and legal representative to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any moneys due or to become due to him hereunder, without the previous written consent of the Owner.

8.3 WRITTEN NOTICE

8.3.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or member of the firm or to an officer of the corporation for whom it was intended, or if delivered at or sent by registered or certified mail to the last business address known by the person who gives the notice.

8.4 NOTICE OF INJURIES OR DAMAGES

8.4.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or member of the firm or to an officer of the corporation for whom it was intended, or if delivered at or sent by registered or certified mail to the last business address known by the person who gives the notice.

8.5 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

8.5.1 Unless otherwise specified in the Contract Documents, the Contractor shall furnish a Performance Bond in an amount equal to one hundred percent (100%) of the Contract Sum as security for the faithful performance of this Contract and also Labor and Material Payment Bond in an amount not less than one hundred percent (100%) of the Contract Sum as security for the payment of all persons performing

8.5.2 labor on the Project under this Contract and furnishing materials in connection with this Contract. The Performance Bond and Labor and Material Payment Bond shall deliver to the Owner not later than the date of execution of the Contract.

8.6 RIGHTS AND REMEDIES

8.6.1 The duties and obligations imposed by the Contract Documents and the rights and remedies available there under shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

8.7 ROYALTIES AND PATENTS

8.7.1 The Contractor shall pay all royalties and license fees. The Contractor shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from the loss on account thereof, except that the Owner shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Owner.

8.8 PROCUREMENT AND DELIVERY OF MATERIALS

8.8.1 The Contractor shall procure with reasonable diligence and deliver to the job site all materials required to insure timely execution and completion of the work.

8.8.2 Within a period of ten (10) calendar days after the Owner's approval, the Contractor will be required to place with the manufacturer or manufacturer's representative all orders for materials and or equipment not commercially produced or available in Puerto Rico.

8.8.3 Delivery at the site of materials and equipment required for the execution and completion of the work shall be schedule at a convenient time within the limits fixed for the termination of the contract so as to avoid delays in the prosecution and completion of the work.

8.9 SAMPLES AND TESTS

8.9.1 The Contractor shall furnish promptly for approval without additional charge to the Owner, all materials reasonably necessary for any test as stipulated under the Technical Specifications or as may be required by the Architect or Engineer.

8.10 FEDERAL PROVISIONS

8.10.1 When the United States Government pays all or any portion of the cost of a project, the Federal laws and the rules and regulations made pursuant to such laws must be observed by the Contractor, and the work shall be subject to the inspection of the appropriate Federal Agency.

8.10.2 Such inspection shall in no sense make Federal Government a party to this Contract and will in no way interfere with the rights of either party hereunder.

8.10.3 The Contractor shall extend the same courtesies to the representative of the Federal Government as are required to be extended to representatives of the Government of Puerto Rico.

8.11 MAINTENANCE DURING CONSTRUCTION

8.11.1 The Contractor shall maintain the work during construction and until the project is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces to the end that all work covered by the Contract is kept in satisfactory and acceptable conditions at all time.

8.11.2 All cost of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various pay items and the Contractor will not be paid an additional amount for such work.

8.11.3 If the Contractor, at any time fails to comply with the provisions of paragraph 8.11, the Architect or Engineer will immediately notify the Contractor of such non-compliance. If the Contractor fails to remedy unsatisfactory maintenance within 24 hours after receipt of such notice, the Architect or Engineer may immediately notify the Contractor of such notice, the architect or Engineer may immediately notify the Contractor of such non-compliance. If the Contractor fails to remedy unsatisfactory maintenance within 24 hours after the receipt of such notice, the Architect or Engineer may immediately proceed to maintain the project, and the entire cost of this maintenance will be deducted from monies due or to become due the Contractor on his Contract.

ARTICLE 9 TIME

9.1 DEFINITIONS

9.1.1 The Contract Time is the period of time allotted in the contract documents for completion of the work.

9.1.2 The date for commencement of the Work shall be the date established in the Notice to Proceed.

9.1.3 The date of substantial completion of the work or designated portion thereof is the date certified by the Architect or Engineer when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner may occupy the work or designated portion thereof for the use for which it is intended.

9.1.4 The term day as used in the Contract Documents shall mean calendar day.

9.1.5 Acts of God are events in nature so extraordinary that the history of climate variations and other conditions in the particular locality affords no reasonable warning of them, such as an earthquake, hurricane or other cataclysmic phenomenon. A rain, windstorm, flood or other natural phenomenon of normal intensity of the particular locality shall not be constructed [considered].

9.2 PROGRESS AND COMPLETION

9.2.1 All time limits stated in the Contract Documents are of the essence of the contract.

9.2.2 OMIT.

9.2.3 OMIT.

9.2.4 The Contractor shall begin the work on the date of commencement as defined in subparagraph 9.2.1. He shall carry the work forward expeditiously with adequate forces and shall complete it within the Contract Time.

9.2.5 The date or time of completion included in the Contract, shall be the date of Substantial Completion as defined in Subparagraph 9.1.3, including authorized extensions.

9.3 DELAYS AND EXTENSIONS OF TIME

9.3.1 No extension of the completion date will be allowed for any reason as provided below:

.1 If satisfactory fulfillment of the Contract with authorized extensions and increase shall require the performance of work in greater quantities than those set forth in proposal so that the total final payment is greater than the total original contract price, then the time allowance may be increased on a basis commensurate with amount and difficulty of the added work.

.2 In case of total suspension ordered not due to any fault of the Contractor, the total number of calendar days during which the work is suspended shall be added to the Contract Time. In case of partial suspension ordered by the Owner not due to any fault of the Contractor, the Contract Time maybe extended to extent of the effect that such suspension may bear on the Contract, as determined by the Owner.

.3 In case of damages to the work due to unforeseeable causes such as Acts of God or by public enemy, the Owner may make allowance of Contract Time for the time required to repair the damage and allowance of Contract Time has been made for the cost therefore, said amount shall not be considered in the total cost of the contract for the purpose of time extension.

.4 In case of delays or interruptions of the Work caused by any Act of the Owner, or by separate Contractor employed by the Owner, or by labor disputes, fire, unusual delay in transportation, unavoidable casualties, by any other cause not attributable to the fault of negligence of the Contractor, then the Contract Time shall be extended by written order for reasonable time as the Architect or Engineer may determine.

.5 Additional time will be allowed if it at the time of executing a Change Order, Extra order, Extra Work Order Supplemental Agreement, a time extension is agreed upon and so stipulated in the written order or agreement, in which case the added cost of such work will not be considered for time extension. If no time extension is stated, any added cost resulting thereof will be considered for time extension.

.6 As certified by the Resident Engineer or Resident Inspector, additional time will be allowed due to weather conditions which render the performance of work impossible.

9.3.2 Extension in the Contract Time shall not be considered or allowed for allowing reasons:

1. Suspensions of work ordered by the Owner, Architect or Engineer due to the fault of the Contractor or his Subcontractor.
2. Unauthorized suspensions of work by the Contractor.

9.3.3 All claims for extensions of time shall be made in writing to the Architect or Engineer not more than fifteen (15) days after the occurrence of the delay is directly attributable to the Owner. These claims shall include: a) the circumstances as may be required by Architect or Engineer, b) the operation (s) alleged to have been delayed, c) the calendar dates on which the operation (s) were delayed and d) the number of calendar days by which he is requesting the completion date to be extended.

9.4 LIQUIDATED DAMAGES

9.4.1 Should the Contractor or, the Surety in case of default, fails to complete all the work within the time specified in the Contract or as extended by the written authorization of the Owner, a deduction of the amount stipulated in the Special Conditions and the Agreement will be made for each and every calendar day that such work remains uncompleted after the expiration of the date of completion up to the date of substantial completion. This amount will be deducted from any money due or that may become due or that may become due the Contractor or his Surety under the Contract.

9.4.2 The amount stipulated in the Special Conditions and the Agreement shall be considered and treated not as a penalty, but as fixed and agree liquidated damages due the Owner by the Contractor or, by the Surety in case of default, by reason of public inconvenience, obstruction to traffic, interference with business, increasing of engineering, inspection and administrative cost to the Owner; and

other items which have caused an expenditure of public funds, resulting from the Contractor's or in case of default of the Surety's failure to complete the work within the time specified in the Contract or as extended by written authorized by the Owner.

9.4.3 Permitting the Contractor to continue and finish the Work or any part thereof after expiration of the date of completion shall in no way operate as a waiver after expiration of the date of completion shall in no way operate as a waiver on the part of the Owner of any of its rights under this contract.

9.4.4 OMIT.

ARTICLE 10 PAYMENTS AND COMPLETION, PAYMENT AND MEASUREMENT

10.1 CONTRACT SUM

10.1.1 The Contract Sum is the Contract Price as stated in the Agreement and is the total amount payable by the Owner to the Contractor for the performance of the Work under the Contract Documents subjected to additions and deductions. The amount payable to the Contractor shall be the actual total cost of the work performed and accepted.

10.2 SCHEDULE OF VALUES

10.2.1 In Lump-Sum Contracts, the Contractor within fifteen (15) days after the date of execution of the Contract will submit for approval to the Architect or Engineer whichever applicable, a schedule of values of the various portions of the Work aggregating the total Contract Sum, divided so as to facilitate monthly partial payments, prepared in approved forms. Each item in the schedule of values shall include its proper share of overhead and profit, except that such initial disbursements as the portion completed for mobilization, temporary facilities, premiums for insurance and bonds any government regulations shall be separately itemized to facilitate its request in the first partial payment. This schedule when approved by the Architect or Engineer shall be used only as a basis for the monthly partial payments.

10.2.2 In Unit-Price Contracts, the Contractor will submit for approval to the Architect or Engineer whichever applicable a schedule of values for those Lump-Sum bid items only. This schedule when approved by the Architect or Engineer shall be used only as a basis for the monthly partial payments.

10.3 PROGRESS PAYMENTS

10.3.1 After the Architect or Engineer has approved the schedule of values and progress submitted by the Contractor, partial payments will be made periodically as the work progresses, of the values of the work performed and accepted during the preceding calendar month on a basis of the periodically certificate for partial payment duly certified by the Resident Engineer or Resident Inspector and approved by the Architect or Engineer.

10.3.2 From each partial payment the Owner shall retain ten (10) percent of the estimated amount except as provided in subparagraph 10.3.3.

10.3.3 OMIT.

10.3.4 OMIT.

10.3.5 Advance payment may be made to the Contractor for the ninety (90) percent of the cost of the materials which are to be incorporated into the work and which are on hand at the job site or stored in acceptable storage places in the vicinity of the project. At the option of the Architect or Engineer payment may be made to the Contractor for materials fabricated, precast or otherwise produced for this specific project and stored at an approved site in Puerto Rico other than in the immediate vicinity of the project. No advanced payment will be made on living or perishable plant materials. In the case of materials which have been purchased by the Contractor, the cost shall be determined by the vendor's invoice. In the case of materials manufactured or obtained by the Contractor through the use of his own workmen or equipment, the cost shall be determined by the Architect or Engineer in accordance with and based upon that particular unit of the project in which the materials are to be utilized. The Contractor shall present signed receipts or other documentary evidence to prove that the cost of the materials for which he is to receive advance payment has been paid in full. If the materials have not been paid for, the invoice shall be accompanied by a release from the materials dealer expressing his conformity with the payment for such materials to the Contractor by the Owner. If at any time after the Contractor has received advance payment for materials, or any part or parts thereof, are defective, damaged or lost, or that said materials, or part thereof, do not conform to the specifications, the Architect or Engineer shall proceed to deduct from any of the succeeding partial payments due the Contractor for work actually performed, a sum sufficient to cover the cost of material, or part or parts thereof, found to be defective, damaged or lost (except as covered in Subparagraph 11.2.4). Materials for which the Contractor has received advance payment shall be properly housed or stored in a manner that will insure the preservation of their quality and fitness for the work. Moreover, the Contractor shall not withdraw said materials for any purpose other than incorporation into the project, unless he has written authority from the Owner to do so. An amount equal to the value of materials incorporated into the work and for which an advance payment has been made, shall be deducted from the partial estimates.

10.3.6 All work performed or labor and materials furnished on a force account basis shall be paid for as follows:

.1 Labor: For all labor, and for foremen in direct charge of specific operations, the Contractor shall receive the rate of wage agreed upon in writing before beginning work for each and every hour that said labor and foremen are actually engaged in such work. The Contractor shall also receive the actual cost paid to or on behalf of workmen by reason of subsistence and travel allowance, health and welfare benefits, pension fund benefits and other benefits when such amounts are required

by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work. To say cost an amount equal to 20 percent of the sum thereof shall be added, unless otherwise specified in the Special Conditions.

.2 Materials; For all materials accepted by the Architect or Engineer and use, the Contractor shall receive the actual cost of such materials, delivered on the work, including transportation charges paid by him. To said the cost an amount equal to 15 percent of the sum thereof shall be added, unless otherwise specified in the Special Conditions.

.3 Equipment:

a. Equipment on the Work: For all equipment authorized by the Architect or Engineer to be used on the force account work the Contractor shall receive rental payment computed using an hourly rate which is 1/176th of the monthly rate listed in the Associated Equipment Distributor's current rental book. Rental will be paid for the time in hours the equipment is in actual operation on the force account work. The minimum rental time to be paid for each day operation shall be not less than eight (8) hours except if the Contractor uses such equipment on other work, then he will be paid only for actual time used in the force accountwork. If monthly rates for the equipment actually being used are not listed in the Associated Equipment Distributor's current rental book, therental rate shall be computed using an hourly rate which is 1/176th of the prevailing monthly rates being paid for such equipment in the area in which the project is located. To compensate for fuel, lubricants, all repairs. And all other operating and maintenance costs other than operation's wages, the Contractor will be reimbursed thirty five (35) percent of the rental rates specified above. To the rental rates specified above the amount equal to fifteen (15) percent shall be added, to equipment not owned by the Contractor.

b. Equipment not on the Work: For the use of equipment moved in on the Work and used exclusively for the work paid for on a force account basis, the Contractor will be paid the rental rates listed in the Associated Equipment Distributor's current rental book. If rental rates for the equipment are not listed in the Associated Equipment Distributor's current rental book, the Contractor shall receive the prevailing rental rates being paid for such equipment in the area which the project is located. The rental time to be paid shall be the time that the equipment is at the site of the force account work, and shall terminate at the end of the day on which the Architect or Engineer or his representative directs the Contractor to discontinue the use of such equipment, including the timerequired to move the equipment to and from the location of the force account work. If the Architect or Engineer determines that the contractor could not reasonably obtain the equipment at the rental rates listed in the Associated Equipment Distributor's current rental book, the Architect or Engineer may authorize payment for the use of such equipment at equipment rental rates in excess of those listed as applicable for the use of such equipment subject to the following conditions: 1)The Architect or

Engineer shall specifically approve the necessity for the use of particular equipment on such work, 2) The Contractor shall establish to the satisfaction of the Architect or Engineer that such equipment cannot be obtained from his normal equipment source at the rate listed in the Associated Equipment Distributor's current rental book, 3) The Contractor shall establish to the satisfaction of the Architect or Engineer that the proposed equipment rental rate for such equipment from his proposed source is reasonable and appropriate for the expected period of use, and that 4) the Architect or Engineer shall approve the equipment source and the equipment rental rate to be paid by the owner before the Contractor begins work involving the use of said equipment. The Contractor will be reimbursed for the force account work and its return to its original location. Should the Contractor desire the return of the equipment to a location other than its original location, the Owner will pay the cost of transportation, original location, the Owner will pay the cost of transportation, provided such payment shall not exceed the cost of moving the equipment to the site of the force account work. The minimum rental time to be paid for each of operation shall be not less than one day. It follows then that the rental time to be paid during the entire rental period will be in accordance with the followings: 1) If the equipment is operated less than 3 days rental time will be paid at a daily rate. 2) if operated more than three days but less than three (3) weeks, rental time will be paid at a weekly rate, and 3) if operated more than three (3) weeks, rental time will be paid at a monthly rate. Equipment which by its nature is rented on an hourly basis, the rental payment shall be computed using an hourly rate for the time in hours the equipment is in actual operation on the force account work as provided in Paragraph 10.3.6. 3a. rental time will not be allowed while equipment is inoperative due to breakdowns in excess of one day per breakdown. To compensate for fuel, lubricants, all repairs, and all other operating and maintenance costs other than operator's wages, the Contractor will be reimbursed thirty-five (35) percent of the rental rates specified above. To the rental rates specified above, an amount equal to fifteen (15) percent shall be added.

.4 Tools: No allowance shall be made for the use of small tools and manual equipment.

.5 Bond, Insurance, and Tax: For Workmen's compensation insurance premium unemployment insurance contribution, social security, taxes, any other employment taxes or fees required by law, and property damage and liability insurance premiums on the force account work, the Contractor shall receive the actual cost plus an amount equal to six (6) percent of actual cost. The Contractor shall furnish satisfactory evidence of the rate paid for such bonds insurance and taxes.

.6 Superintendence and Owner: No additional allowance shall be made for general superintendence, overhead or other costs for which no specific allowance is herein provided.

.7 Compensation as set forth above shall be received by the Contractor as payments in full of the extra work done on a force account basis.

.8 At the end of each day, the Contractor and the Resident Engineer or Resident Inspector shall compare records of the cost of work done on a force account basis. Copies of these records shall be made upon suitable forms and signed by both the Resident Engineer and Resident inspector and the Contractor or their authorized representatives and each party will retain one copy. All claims for extra work done on a force account basis shall be submitted each month to the Architect or Engineer together with receipted bills or certified statement of the cost of materials used and any other expenses in connection with said work.

.9 No payment will be made for force account work unless the contractor shall furnish the Architect or Engineer duplicate itemized statements of the cost of such force account work detailed as to the following:

1. Nature of work performed.
2. Name, classification, date, daily hours, total hours, rate benefits and extension for each laborer, foreman equipment operator.
3. Designation dates, daily hours, total hours, rental rate and extension for each unit of machinery and equipment.
4. Quantities of materials used, prices and extensions.
5. Transportation of materials.
6. Cost of insurance premiums and taxes.

10.3.7 Materials which have been delivered to the project in accordance with the requirement of the plans or Contract, but which, due to revisions or elimination of items authorized by the Architect or Engineer or due to discrepancies in the plans or Contract, are not used in the work, the Contractor upon request will be reimbursed for the actual verified cost of such material delivered at the project site, including handling charges less any discount allowed on the invoice, but with no percentage added, and such material will thereafter become the property of the Owner.

10.3.8 The Contractor warrants and guarantees that title to all work materials and equipment covered by a certification for payment, whether incorporated in the Project or not, will pass to the owner upon the receipt of such payment by the Contractor, free and clear of all liens, claims, security interests or encumbrances, hereinafter referred to this Article 10 as "liens", and that no Work, materials or equipment covered by a Certificate for Payment will have been acquired by the Contractor; or by any other person performing the Work at the site or furnishing materials and equipment for the Project subject to an agreement under which an interest therein or an encumbrance thereon is retained by seller or otherwise imposed by the Contractor or such other person.

10.3.9 The issuance of a Certificate for Payment will constitute a representation by the Resident Inspector, based on his observations at the site that the Work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quality of the work is in accordance with the Contract Documents (subject to an evaluation of the Work in accordance with the Contract Documents upon Substantial Completion, to the results of any subsequent tests required by the Contract Documents correctable prior to completion, and to any specific qualifications stated in his Certificate); and that the Contract is entitled to payment in the amount certified. In addition, the Owner's Final Certificate for Payment will constitute a further representation that the conditions precedent to the Contractor's being entitled to final payment have been fulfilled. However, by issuing a Certificate for Payment, the Owner or his representative shall not thereby be deemed to represent that he has made exhaustive or continuous on site inspections to check the quality or quantity of the Work or that he has re-viewed the construction means, methods, techniques, sequences or procedures, or that he has made any examination to ascertain how or for what purpose the Contractor has used the money's previously paid on account of the Contract Sum.

10.3.10 No certificate for progress payment, nor any progress payment, or any partial or entire use or occupancy of the Project by the Owner shall constitute an acceptance of any work not in accordance with the Contract Documents.

10.4 PAYMENTS WITHHELD

10.4.1 The Architect or Engineer without incurring in liability may decline to approve any certificate for Payment or, because of subsequently discovered evidence or subsequent inspection, he may nullify the whole or any part of any Certificate for payment previously issued, to such extent as may be necessary in his option to protect the Owner from loss because of:

1. Defective work not remedied
2. Failure of the Contractor to comply with any requirements of the Contract Documents.

10.5 MEASUREMENT AND PAYMENT

10.5.1 The determination of quantities of work acceptably completed under the terms of the contract will be made by the Architect or Engineer and based on measurements made by him or his assistants according to the units or measure for each item as shown in the proposal and by the method indicated in the corresponding specification for said item.

10.6 OMIT

10.7 SUBSTANTIAL COMPLETION AND FINAL PAYMENT

10.7.1 Partial Acceptance. If any time during the prosecution of the project Contractor substantially completes a unit or a portion of the project, he may request the Architect or Engineer to make final inspection of that unit portion. If the Architect or Engineer finds upon inspection that the unit has been substantially completed in compliance with the Contract Documents he may accept that unit as being completed and the contractor upon written notice may be relieved of further responsibility for that unit. Such partial acceptance shall in no way void or alter any of the terms of the contract.

10.7.2 Final Acceptance. Upon due notice from the contractor of presumptive completion of the entire project, the Engineer will make an inspection within (10) calendar days from notice. If all construction provided for and contemplated by the contracts is found completed to his satisfaction, that inspection shall constitute the final inspection and the Architect or Engineer will notify the Contractor in writing of the final acceptance. If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the Architect or Engineer will give the Contractor the necessary instructions for correction of same, and the Contractor shall immediately comply with and execute such instruction. Upon correction of the work, another inspection will be made which shall constitute the final inspection provided the work has been satisfactorily completed. In such event, the Architect or Engineer will notify the Contractor in writing of the final acceptance.

10.7.3 When the final acceptance has been duly notified by the Architect or Engineer as provided in Article 10.7.2, the Architect or Engineer shall prepare the final estimate of the various classes of work performed, and after the approval of such final estimate by the Owner and by the Contractor, there shall be paid to the Contractor the entire sum found to be due after deducting all previous payments and all amounts to be retained or deducted under the provisions of the contract.

10.7.4 Neither the final payment nor the remaining retained percentage shall become due until the Contractor submits to the Owner 1) an Affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or his property might in any way be responsible, have been paid or otherwise satisfied, 2) consent of surety to final payment, 3) if required by the Owner, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Contract, to the extent and in such form as may be designated by the Owner and 4) the proper release from the Corporation of the State Insurance Fund (CFSE). If any Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify him against any such lien. If any such lien remains unsatisfied after all payments are made, the Contractor shall refund the Owner all moneys that the latter may be compelled to pay discharging such lien, including all costs and reasonable attorney's fees.

10.7.5 If after Substantial Completion of the Work final completion thereof is materially delayed through no fault of the Contractor, and the Architect or Engineer so confirms, the Owner shall, upon certification by the Architect or Engineer make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for work not fully completed or corrected is less than the retainage stipulated in the Contract Documents, and if bonds have been furnished as required in Subparagraph 8.5.1, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Owner prior to certification of such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

10.7.6 The making of final payment shall constitute a waiver of all claims by the Owner except those arising from:

- 1) Unsettled liens and unsettled claims previously made in writing.
- 2) Faulty or defective work appearing after Substantial Completion, as specified in Subparagraph 14.2.2.
- 3) Failure of the Work to comply with the requirements of the Contract Documents, or
- 4) Terms of any special guarantees required by the Contract Documents.

10.7.7 The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and still unsettled.

10.7.8 OMIT.

ARTICLE 11 PROTECTIONS OF PERSONS AND PROPERTY

11.1 SAFETY PRECAUTIONS AND PROGRAMS

11.1.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the project.

11.2 SAFETY OF PERSONS AND PROPERTY

11.1.1 The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:

1. all employees on the Work and all other persons who may be affected thereby;
2. all the Work and all the materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of his Subcontractors or Sub-subcontractors; and
3. other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities of construction.

- 11.2.2 The Contractor shall comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. He shall erect and maintain, as required by existing conditions and progress of the Work, all 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 utilities.
- 11.2.3 When the use or storage of explosive or other hazardous materials or equipment is necessary for the execution of the project, the Contractor shall exercise the utmost care as not to endanger life or property and shall carry on such activities under supervision of property qualified personnel. The Contractor shall keep the Architect or Engineer informed as to his approval before blasting, when required. The Contractor, when required, shall use mats or other accepted means to reduce blasting. The contractor shall notify each public utility company and other private entities having facilities in the proximity to the site of the work of his intention to use explosives. Such notice shall be given sufficiently in advance to enable the companies and the private entities to take such steps as they may deem necessary to protect the property from injury.
- 11.2.4 All damage or loss to any property referred to in Subparagraph 11.2.12 and 11.2.13 caused in whole or in part by the contractor, any Subcontractor, or any one directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, shall be remedied by the Contractor, except damage or loss attributable to faulty Drawing or Specifications or to the acts or omissions of the Owner or Architect or Engineer or anyone employed by either of them or for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor.
- 11.2.5 The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents.
- 11.2.6 The Contractor shall not load or permit any part of the Work to be loaded so as to endanger its safety.
- 11.2.7 The Contractor shall be responsible for the protection of all public and private property, monuments, telephone and telegraph lines and other public utilities along and adjacent to the project. He shall use every precaution to prevent damage to pipes conduits and underground structures and shall cooperate with the owners of utility companies in the removal or relocation of their facilities in such a way that their operation is not interrupted. The time and labor for the relocation of these facilities shall be reduced to a minimum, so that the services rendered by them be not unnecessarily interrupted. Any of these services that may be affected by the Contractor shall be repaired by him immediately. The Contractor shall protect carefully all property limit monuments. He shall notify the responsible person or agency, if these must be moved or changes in any way, and shall not affect them until and authorized agent has referenced them and authorized their relocation or removal. All roads adjacent to or intersecting the project shall be protected from

damage. The contractor shall take all necessary precautions to preserve all objects of art, antique and minerals found in the area of work or in construction operations and he shall notify about them to the Engineer, Architect or Contracting Officer. All such articles or objects shall be delivered to the Owner and shall be extracted and removed in accordance with the instructions of the Architects or Engineer. When any direct or indirect damage is done to the public or private property by an act, omission, neglect or fault of the Contractor in the execution of the work, such property shall be restored by the Contractor without the right to additional compensation. Otherwise the Contractor shall compensate the affected person or entity in a form acceptable to parties.

11.2.8 The Contractor shall provide and maintain in neat sanitary conditions such accommodations for the use of his employees as may be necessary to comply with requirements and regulations of the Health Department and other bodies having jurisdiction there over. He shall neatly clean up all camp sites, dispose of all rubbish and perishable material and leave the premises in a neat and sanitary conditions when he has completed the occupancy of the site.

11.2.9 The Contractor shall exercise every reasonable precaution throughout the life of the project to prevent silting of rivers, streams, lakes and reservoirs. Construction of drainage facilities as well as performance of other contract work which will contribute to the control of situation shall be carried out in conjunction with earthwork operations as soon thereafter as is practicable. Unless otherwise approved in writing by the Architect or Engineer, construction operations in rivers, streams, lakes, and reservoirs shall be restricted to those areas which must be entered for the construction of temporary or permanent structures. Rivers, streams, lakes and reservoirs shall promptly be cleared of all false work, piling, debris, or other obstructions placed therein or caused by the construction operations. Frequent fording or live streams with construction equipment will not be permitted. Temporary bridges or other structures shall be used wherever an appreciable number of stream crossings are necessary. Unless otherwise approved in writing by the Architect or Engineer, mechanized equipment shall not be operated in live streams except as may be required to construct channel and temporary or permanent structures. The Contractor shall exercise every reasonable precaution throughout the life of the project to prevent pollution of rivers, streams, lakes or reservoirs. Pollutants such as chemicals, fuels, lubricants, bitumen's, raw, sewage and other harmful waste shall not be discharged into or alongside of rivers, streams, lakes or reservoirs or into natural or manmade channels leading thereto. The Contractor shall also comply with the applicable regulations relating to the prevention and abatement of water pollution.

11.2.10 In carrying out the work within or adjacent to Commonwealth National Forests, the Contractor shall comply with all regulations of the Commonwealth Fire services, Conservation Commission, Department of Agriculture, or other authority having jurisdiction, governing the protection of forests and the carrying out work within forests, and shall observe all sanitary laws and regulations with respect to the performance of work in forest areas. He shall keep the areas in an orderly

condition, dispose of all refuse, obtain permits for the construction and maintenance of all construction camps, stores, warehouses, residences, latrines, cess- pools, septic tanks and other structures in accordance with the requirements of the Forest Supervisor. The Contractor shall take all reasonable precaution to prevent and suppress forest fires and shall require his employees and subcontractors, both independently and at the request of Forest officials, to do all reasonable within their power to prevent and suppress and to assist in preventing and suppressing forest fires and to make every possible effort to notify a Forest official at the earliest possible moment of the location and extent of any fire seen by them.

11.3 EMERGENCIES

11.3.1 In any emergency affecting the safety of persons or property, the Contractor shall act, at his discretion to prevent threatened damage injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in article 9 and 13 for Time and Changes in the Work.

ARTICLE 12 INSURANCE

12.1 CONTRATOR'S BOND

12.1.1 The Contractor must, within ten (10) consecutive calendars days from the date of Notice Award, furnish and file with the Owner, in form satisfactory to and with sureties approved by the Owner the following:

1. Performance Bond to guarantee the faithful performance of the Contract, in an amount equal to (100) percent of his bid.
2. Payment Bond including Labor Bond in a amount equal to (100) percent of his bid.
3. Evidence of the following insurance overages if required in the Contract Documents:
 - a. Workmen's Compensation Insurance Policy issued by the Puerto Rico State Insurance Fund.
 - b. Employer's Liability.
 - c. Comprehensive General and Automobile Liability Insurance.
 - d. Builder's Risk all risks form including earthquake.
 - e. Installation Floater Policy.

12.1.2 All the above referred to bonds and policies must be satisfactory to the Owner in compliance with the law, and in form and amount properly sufficient to protect the Owner.

12.1.3 It shall be the responsibility of the Contractor to maintain adequate insurance coverage at all times. Failure to maintain adequate coverage shall not relieve the Contractor of any contractual responsibility or obligation. The certificates filed with the Owner shall state that thirty (30) days written notice will be given to the Owner before any policy covered thereby is changed or canceled.

12.1.4 If at the due date of the policies, the project is still under construction and the Contractor has not renewed the policies the Owner can renew them and deduct the amount paid for the premium from the next payment.

12.2 WORKMEN’S COMPENSATION AND EMPLOYEES LIABILITY

12.2.1 This insurance shall protect the Contractor against all claims under applicable state workmen’s compensation law. The Contractor shall also be protected against claims for injury, disease, or death of employees which, for any reason, may not all within the provisions of workmen’s compensation law. The liability limits shall not be less than:

Workmen’s compensation	Statutory
Employer’s Liability	\$1,000,000 each person

12.3 COMPREHENSIVE GENERAL AND AUTOMOBILE LIABILITY INSURANCE

12.3.1 Public liability insurance shall be written in comprehensive form and shall protect the Contractor against all claims arising out of any act or omission of the Contractor or his agents or employees. In addition, this policy shall specifically insure the contractual liability assumed by the Contractor under the General Conditions. The liability limits shall not be less than:

Bodily injury	1,000,000.00 each occurrence
Property damage	1,000,000.00 each occurrence
	1,000,000.00 aggregate

12.3.2 After the execution of the contract, in the event that the work may require blasting, explosive conditions, or underground operation, the comprehensive general liability coverage shall contain an endorsement relative to blasting, explosion, collapse of building, or damage to underground property at the expense of the owner.

12.3.3 The public liability insurance shall carry an endorsement in form satisfactory to the Owner to the effect that the Contractor shall save harmless the Owner from any claims and damages as per paragraph 5.16 (INDEMNIFICATION).

12.3.4 Automobile Liability insurance shall be written in comprehensive form and shall protect the Contractor against all claims for injuries to member of the public and damage to property of others arising from the use of motor vehicles, and shall cover operation on or off the site of all motor vehicles, and shall cover operation on or off the site of all motor vehicle, whether they are owned, no owned, or hired. The liability limits shall not be less than:

Bodily injury	\$1,000,000	each person
	\$1,000,000	each occurrence
Property Damage	\$1,000,000	each occurrence
	\$1,000,000	aggregate

12.4 BUILDER’S RISK

12.4.1 This insurance shall be written under and all risks form including earthquake and shall protect the Contractor and the Owner against damages to buildings, structures, and materials and equipment not otherwise covered under installation floater insurance. The amount of such insurance shall be not less that the insurance value of the work at completion less the value of the materials and equipment insured under installation floater insurance. Equipment such pumps, engine-generators, compressors, basin equipment, motors switchgear, transformers, panel boards, control equipment, and other similar equipment shall be insured under installation floater insurance when the aggregate value of the equipment exceeds \$10,000.00. If the work does not include the construction of structures, builders risk insurance may be omitted at the option of the owner as indicated in the contract documents. Builder’s risk insurance shall provide for losses to be payable to the Contractor and the Owner as their interests may appear and shall contain a waiver of subrogation rights against the insured parties.

12.5 INSTALLATION FLOATER

12.5.1 The insurance shall protect the Contractor and the Owner from all insurable risks of physical loss or damage to materials and equipment not otherwise covered under builder’s risk insurance, while in warehouses or storage areas, during installation, testing, and after the work is completed. It shall be of the “all risks” type, with coverage’s designed for the circumstances which may occur in the particular work included in this contract. The coverage shall be for an amount not less than the insurable value of the work at completion, less the value of the materials and equipment insured under builder’s risk insurance. The values shall include the aggregate value of the Owner’s furnished equipment and materials to be erected or installed by the Contractor not otherwise insured under builder’s risk insurance. Installation floater insurance shall provide for losses to be payable to the Contractor and the Owner as their interests may appear and shall contain a

waiver of subrogation rights against the insured parties. If the aggregate value of the Owner's furnished and Contractor's furnished equipment is less than \$10,000, such equipment may be covered under builder's risk insurance, and ifso covered this installation floater insurance shall quote the insuring agreement and all exclusions as they appear in the policy; or in lieu of certificates, copies of the complete policy may be submitted.

12.6 SUBCONTRACTOR'S AND SUB-SUBCONTRACTOR'S INSURANCE

12.6.1 The contractor shall, throughout the performance of work under the contract, procure and maintain in effect, and require all subcontractors and others performing any such work to maintain in effect, insurance of the types and with limits not less than the minimum amounts specified above, of insure the activity of his subcontractors in his own policy.

ARTICLE 13 CHANGES IN THE WORK

13.1 CHANGE ORDERS AND EXTRA WORK ORDERS

13.1.1 The Owner without invalidating the Contract may order extra work or make changes in the Work within the general scope of the Contract consisting of additions, deletions of any or all of the quantities in the items of the Bid schedule or other revisions, the Contract sum and the Contract time being adjusted accordingly. All such alterations shall be authorized by Change Orders or Extra Work Orders and shall be executed under the applicable conditions of the Contract Documents. On Municipal projects the Change Orders will be tramited guided bythe "Ley de Municipios Autónomos" and the "Reglamento de Subastas" that apply.

13.1.2 A Change Order is a written order to the Contractor signed by the Owner or his representatives, authorizing a change in the work or an adjustment in the Contract Time. In unit-price Contracts the Contractor shall perform the work as altered at the original unit prices.

13.1.3 In Lump Sum Contracts the cost or credit to the Owner resulting from Change in the Work shall be determined in one of the following ways:

.1 by mutual acceptance of a lump sum properly itemized;

.2 by unit prices stated in the Contract Documents or subsequently agreed upon; or

.3 by cost and a mutually acceptable fixed or percentage fee.

13.1.4 If none of the methods set forth in Subparagraph 13.1.3 is agreed upon, the Contractor, provided he receives a Change Order, shall promptly proceed with the Work involved. The cost of such Work shall then be determined as per paragraph 10.3.6.

- 13.1.5 If unit prices are stated in the Contract Documents of subsequently agreed upon, and if the quantities originally contemplated are so changed in a proposed Change Order that application of the agreed unit prices to the quantities of work proposed will create a hardship.
- 13.1.6 The amount of credit to be allowed by the Contractor to the Owner for any deletion or change which results in a net decrease in cost will be the amount of the actual net decrease as confirmed by the Architect or Engineer. When both additions and credits are involved in any one change, the allowance for overhead and profit shall be figured on the basis of net increase, if any.
- 13.1.7 Should concealed conditions encountered in the performance of the Work below the surface of the ground be at variance with the conditions indicated by the Contract Documents or should unknown physical conditions below the surface of the ground of an unusual nature, differing materially from those ordinary encountered and generally recognized as inherent in work of the character provided for in this Contract, be encountered, the Contract Sum shall be equitable adjusted by Change Order upon claim by either party made within twenty days after the first observance of the conditions.
- 13.1.8 If the Contractor claims that additional cost is involved because of (1) any written interpretation issued pursuant to Subparagraph 2.2.6, (2) any order by the Owner to stop the Work pursuant to Subparagraph 4.3 where the Contractor was not at fault, or (3) any written order for a minor change in the Work issued pursuant to Paragraph 13.3, the contractor shall make such claim as provided in Paragraph 13.2.
- 13.1.9 An Extra Work Order is a written order signed by the Owner or his representative authorizing a change in the Work, adjustment in the Contract Sum and the Contract time for services or work for which there is no applicable basis payment, either direct or indirect, provided in the proposal or the contract or if the resulting overruns or under runs of any item or items exceed certain percentages. The percentages and the method to be followed for unit price adjustment shall be as follows:
- .1 Overruns of more than twenty-five (25) percent of any major item or items shall require a negotiated unit price which shall be covered by a Supplemental Agreement. The original unit price shall apply to all work performed up to one hundred twenty-five (125) percent of the original proposal quantity for the item, and the negotiated unit price shall apply only to the quantity of work performed in excess of said 125 percent. If a satisfactory negotiated price cannot be agreed upon for any item or items, the Owner reserves the right to require the Contractor to perform the work by Force Account or to eliminate the increased quantity from the contract.

.2 Under runs of more than twenty-five (25) percent of any major item or items shall require a negotiated unit price for the units of work finally performed which shall be covered by a Supplemental Agreement. The total quantity of work finally performed shall be paid at the negotiated unit price, but in no case will the amount paid for the total quantity performed exceed seventy-five (75) percent of the original total amount for the item.

.3 Overruns of a minor item to the extent that the amount of the item calculated at the original unit price, exceeds 6.25 percent of the original contract amount, shall require a negotiated unit price which shall be covered by a Supplemental Agreement. The original unit price shall apply to all work performed in the item up to a value of 6.25 percent of the original contract amount and the negotiated unit price shall apply to the additional work. If a satisfactory negotiated price cannot be agreed upon, the Owner reserves the right to require the Contractor to perform the work by force account or to eliminate the increased quantity from the Contract.

13.1.10 Subparagraphs 13.1.9, 13.1.9.1, 13.1.9.2. and 13.1.9.3 shall not apply to Lump Sum Contracts.

13.2 CLAIMS FOR ADDITIONAL COST

13.2.1 If the Contractor wishes to make a claim for an increase in the Contract Sum, he shall give the Architect or Engineer written notice thereof within twenty days after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life property. No such claim shall be valid unless so made. Any change in the Contract Sum resulting from such claim shall be authorized by Change Order or Extra Work Order.

13.3 MINOR CHANGES IN THE WORK

13.11 The Owner shall have authority to order minor changes in the Work not involving and adjustment in the Contract Sum or an extension of the Contract time and not inconsistent with the intent of the Contract Documents. Such changes may be effected by Field Orders or by other written order. Such changes shall be binding on the Owner and the Contractor.

13.4 FIELD ORDERS

13.4.1 The Architect or Engineer may issue written Field Orders covering minor changes in the Work without change in Contract Sum or Contract Time. The Contractor shall carry out such Field Orders promptly.

ARTICLE 14 UNCOVERING OF WORK

14. 1 UNCOVERING WORK

- 14.1.1 If any Work should be covered contrary to the request of the Architect or Engineer, it must, if required by the Architect or Engineer, be uncovered for his observation and replace, at the Contractor's expense.
- 14.1.2 If any other work has been covered which the Architect or Engineer has not specifically requested to observe prior to being covered, the Architect or Engineer may request to see such work and it shall be uncovered by the Contractor. If such work be found in accordance with the Contract Document, the cost of uncovering and replacement shall, by appropriate Change Order or Extra Work Order, be charged to the Owner. If such work be found no in accordance with the Contract Documents, the Contractor shall pay such costs unless it be found that this condition was caused by a separate contractor employed as provided in Article 7 and in that event the Owner shall be responsible for the payment of such costs.

14. 2 CORRECTION OF WORK

- 14.2.1 The Contractor shall promptly correct all work rejected by the Architect or Engineer as defective as failing to conform to the Contract Documents whether observed before or after Substantial Completion shall bear all cost of correcting such rejected of work.
- 14.2.2 If, within one year after the Date of Substantial Completion or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any of the Work is found to be defective of not in accordance with the Contract Documents, the Contractor shall correct it promptly.

After receipt of a written notice form the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition as provided in Subparagraph 14. 3. 1. The Owner shall give such notice promptly after the discovery and confirmation of the condition.

- 14.2.3 All such defective or non-conforming Work under Subparagraph 14.2.1 and 14. 2. 2 shall be removed form the site within a reasonable time fixed in a written notice form the Architect or Engineer to that effect, and the Work shall be corrected to comply with the Contract Documents without cost to the Owner.
- 14.2.4 The contractor shall bear the cost of making good all work separate contractors destroyed or damaged by such removal or correction.
- 14.2.5 If the Contractor does not remove such defective or non-conforming Work within a reasonable time fixed by written notice form the Architect or Engineer, the Owner may remove it and may store the materials or equipment at the expense of the Contractor. If the Contractor does not pay the cost of such removal and storage

within ten days thereafter, the Owner may upon ten additional days written notice sell such material and equipment at auction or at private sale and shall account for the net proceeds thereof, after deducting all the cost that should have been borne by the Contractor including compensation for additional expenses incurred by the Owner. In such proceeds of sale do not cover all costs which the Contractor should have borne, the difference shall be charged to the Contractor and an appropriate Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

14.2.6 If the Contractor fails to correct such defective or non-conforming Work, the Owner may correct it in accordance with Paragraph 4. 4.

14.3. ACCEPTANCE OF DEFECTIVE OR NON-CONFORMING WORK

14.3.1 If the Owner prefers to accept defective or non-conforming Work, he may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect an appropriate reduction in the Contract Sum, or if the amount is determined after final payment, is shall be obtained from the Contractor or surely by any appropriate means.

ARTICLE 15 DISPUTES AND APPEALS

15.1. SETTLEMENT OF DISPUTES

15.1.1 All claims, disputes and other matters in question arising out of, or relating to, this Contract or the breach thereof, except for claims which have been waived by the making or acceptance of final payment as provided by Subparagraphs 10. 7. 7, shall be decided by the Architect or Engineer as provided in Subparagraphs 3. 2. 7, 3. 2. 8 and 3. 2. 9.

15.2 ARBITRATION (This section will not apply to Municipal projects)

15.2.1 In case of any dispute involving a change in contract price, the party not satisfied with the Architect or Engineer's written decision may request arbitration by filing a demand in writing with the Architect or Engineer within thirty (30) calendar days from the date of the decision.

15.2.2 In case a demand for arbitration is filed as contemplated above, the parties may agree on one arbitrator only; otherwise there shall be three, one named in writing by each party within fifteen (15) calendar days after demand has been given, and a third arbitrator to be chosen by the two appointed within fifteen (15) calendar days following their appointment. In case that his third arbitrator is not selected within the fifteen days period, then this arbitrator shall be appointed by the Court Administrator Judge.

- 15.2.3 If no demand for arbitration is filed, on time, or should the demanding party fail to appoint an arbitrator fifteen (15) calendar days after the filing of such demand, it shall be interpreted that the demand has been withdrawn and the Architect or Engineer's decision will stand final and binding. If the other party fails to appoint an arbitrator within the fifteen days period, then this arbitrator shall be appointed by the Court Administrator Judge.
- 15.2.4 The demand for arbitration shall be made within the time limits specified in Subparagraphs 15. 2. 2 and 15. 2. 3 after the claim, dispute or other matter in question has arisen, and in no event shall it be made after the date when institution of legal or equitable proceedings based on such claim, disputes or other matter in question would be barred by the applicable statute of limitations.
- 15.2.5 The arbitrators so appointed shall then proceed in accordance with the provisions of the Puerto Rico Arbitration Law.
- 15.2.6 The arbitrators shall fix their own compensation, unless otherwise provided by agreement, and shall assess the cost and charges of the arbitration equally upon both parties. The arbitrators shall have the right to retain and consult experts and competent authorities skilled in the matter or matters under arbitration.
- 15.2.7 If there be one arbitrator, his decision shall be binding; if there be three, the decision of any two shall be binding.
- 15.2.8 The Contractor shall carry on the work and maintain the progress schedule during any arbitration proceedings, unless otherwise agreed by him and the Owner in writing.

ARTICLE 16 TERMINATION OF CONTRACT

16. 1 OWNER'S RIGHT TO POSTPONE OR DISCONTINUE OPERATIONS

- 16.1.1 If the Owner shall consider it necessary or desirable, for any reason whatsoever, before completion of the work hereunder, to postpone or abandon further operations, the Contract may be terminated by the Owner and in that event the Owner shall the Contractor, a full settlement of all claims by him hereunder, an amount to be determined as follows:
 - .1 The Work performed and accepted by the Owner shall be paid in accordance with the terms of the Contract.
 - .2 The actual cost of all acceptable materials for which orders have been placed by the contractor for use under this contract, it being agreed that, if required by Owner, the Contractor shall make very possible effort, to cancel such orders.

- .3 The actual cost of acceptable fabricated materials, called hereunder, and already fabricated whether in the shop, or in transit thereof;
- .4 The actual amounts paid by the Contractor for construction equipment rentals up to the time of the aforementioned termination, plus any amounts accrued or payable under written contract for the rental of such equipment it being agreed that the Contractor shall make every possible effort to cancel any such contracts. If the equipment is owned by the Contractor, he will be paid the prevailing rental rates.
- .5 The actual cost to the Contractor of bonds, insurances and taxes as required under the contract; for the period of the work's stoppage.
- .6 Fixed Expenses for the period of the work's stoppage, such as supervisory, administrative, and operations personnel salaries, utilities, equipment, and miscellaneous expenses such as safety and vigilance.
- .7 Overhead and profit in the amount of 15% of all expenses detailed under .2, .3, .4 and .5 above only, provided, however, that such costs are not in excess of reasonable market prices for the same or similar materials, equipment and services. From the total of all the foregoing costs of determined there shall be deducted all payments thereon previously made and all proper changes to the Contractor in relation therewith.

16.1.2 In case the Contract is terminated under the above provision the Contractor shall be under no further obligation to the Owner with reference to the work eliminated.

16.1.3 Termination of a contract, stated above, will not relieve the Contractor of his responsibilities for the completed work, nor shall relieve his surety of its obligation for and concerning any just claims arising out of the completed work.

16.2 OWNER'S RIGHT TO TERMINATE THE EMPLOYMENT OF THE CONTRACTOR

16.2.1 If the Contractor (1) should be adjudged a bankruptcy or (2) if he should make a general assignment for the benefit of his creditors, or (3) if a receiver should be appointed on account of his insolvency or (4) if an attachment should be made upon his properties and it is not vacated or the claim otherwise secured within five (5) days, thereafter, or (5) if he should persistently or repeatedly refuse or fail to supply enough properly skilled workmen or sufficient and proper materials, or equipment, or (6) if he should fail to make prompt payment to subcontractors or for materials, service or labor, or (7) persistently disregard laws, ordinances or the instruction of the Architect or Engineer or (8) if he fails to begin the work within the period of time specified in the order to proceed, or (9) if he refuses or fails to prosecute the work, or any part thereof, with such diligence as will insure its completion within the time specified or any extension thereof, or (10) if he should fail to complete the work within said time, or (11) if he should neglect or refuse to

remove condemned work materials or satisfactorily perform a new such work as may have been rejected as being defective or unsuitable, or (12) if he should abandon or discontinue the prosecution of the work without authority; or (13) if he should otherwise be guilty of a substantial violation of any provision of the Contract, then the owner may, without prejudice to any other right or remedy under the provisions of the Contract, and after giving the Contractor and his sureties five (5) days written notice, terminate the employment of the Contractor and take possession of the premises and all materials, tools and appliances thereon as may be acceptable, suitable and necessary, and proceed with the work until completion by contract or by whatever other method it may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the work is finished.

16.2.2 If the unpaid balance of the contract price shall exceed the total expense of finishing the work, including liquidated damages, and compensation for additional engineering and managerial and administrative services, such excess shall be paid to the Contractor.

16.2.3 If the total expense of finishing the work, including liquidated damages, and compensation for the additional services listed above shall exceed the unpaid contract price, the contractor and his sureties shall pay the difference to the Owner.

16.2.4 In computing the liquidated damages contemplated above and fixing the date of final completion by the Owner by Contract or otherwise, unnecessary delays by the Owner or the subsequent contractor shall be taken in consideration with reference to the time for completion as originally set or extended.

16.2.5 The foregoing provisions are in addition to, and not in limitation of the rights of the Owner under any other provisions the contract.

16.3 CONTRACTOR'S RIGHT TO TERMINATED THE CONTRACT

16.3.1 If the work should be substantially stopped by the Owner by any reason whatsoever though no act or fault of the Contractor for a period of ninety (90) calendar days from written notice of the Owner and the Architect or Engineer, the Contractor may terminate the Contract and recover from the Owner payment for all work executed as specified in Subparagraph 16.1.1.1, 16.1.1.2, 16.1.1.3, 16.1.1.4, 16.1.1.6 and 16.1.1.7.

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01300

SUBMITTALS AND SUBSTITUTIONS

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work Included: Wherever possible throughout the Contract Documents, the minimum acceptable quality of workmanship and materials has been defined by manufacturer's name and catalog number, reference to recognized industry and government standards, or description of required attributes and performance.

B. To ensure that the specified products are furnished and installed in accordance with design intent, procedures have been established for advance submittal of design data and for their review by the Architect.

C. Make all submittals required by the Contract Documents, and revise and resubmit as necessary to establish compliance with the specified requirements.

D. Related Work Described Elsewhere: Individual requirements for submittals are describe in pertinent other Sections of these Specifications.

1.02 QUALITY ASSURANCE

A. Coordination of Submittals: Prior to each submittal, carefully review and coordinate all aspects of each item being submitted and verify that each item the submittal for it conforms in all respects with the requirements of the Contract Documents. By affixing the Contractor's signature to each submittal, certify that this coordination has been performed.

B. Certificates of Compliance: Certify that all materials used in the work comply with all specified provisions thereof. Certification shall not be construed as relieving the Contractor from furnishing satisfactory materials if, after tests are performed on selected samples, the material is found to not meet specified requirements.

C. Show on each certification the name and location of the work, name and address of Contractor, quantity and date or dates of shipment or delivery to which the certificate applies, and name of the manufacturing or fabricating company. Certification shall be in the form of letter or company-standard forms containing all required data. Certificates shall be signed by an officer of the manufacturing or fabricating company.

D. In addition to the above information, all laboratory test reports submitted with Certificates of Compliance shall show the date or dates of testing, the specified requirements for which testing was performed, and results of the test or tests.

1.03 SUBMITTALS

A. Submittal Schedule: Within 35 days after award of Contract, and before any items are submitted for approval, submit to the Architect two copies of the scheduled described in Article 2.1 of this Section.

B. Certificates of Compliance: Upon completion of the work, and as a condition of its acceptance, submit to the Architect all Certificates of Compliance.

C. Make all submittals of Shop Drawings, Samples, request for substitution, and other items, in strict accordance with this Section.

PART TWO - PRODUCTS

2.01 General: Compile & complete and comprehensive schedule of all submittals anticipated to be made during progress of the work. Include a list of each type of item for which Contractor's drawings, Shop Drawings, Certificates of Compliance, material samples, guarantees, or other types of submittals are required. Upon approval by the Architect this schedule will become part of the Contract at the Contractor will be required to adhere to the schedule except when specifically otherwise permitted.

A. Coordination: Coordinate the schedule with all necessary subcontractors and materials suppliers to ensure their understanding of the importance of adhering to the approved schedule and their ability to so adhere. Coordinate as required to ensure the grouping of submittals as described in Paragraph 3.2 below.

B. Revisions: Revise and update the schedule on a monthly basis as necessary to reflect conditions and sequences. Promptly submit revised schedules to the Architect for review and comment.

2.02 SHOP DRAWINGS AND COORDINATION DRAWINGS

A. Shop Drawings: Scale and Measurements: Make all Shop Drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method connection to the work.

B. Type of Prints Required: Submit all Shop Drawings in the form of one sepia transparency of each sheet plus one blue line or black line print of each sheet. Blueprints will not be acceptable.

C. Reproduction of Review Shop Drawings: Printing and distribution of review Shop Drawings for the Architect's use will be by the Architect. All review comments of the Architect will be shown on the sepia transparency when it is returned to the Contractor. The Contractor shall make and distribute all copies required for his purposes.

2.03 MANUFACTURER'S LITERATURE

A. General: Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, clearly indicate which portion of the contents is being submitted for review.

B. Number of Copies Required: Submit the number of copies which are required to be returned plus two copies which will be retained by the Architect.

2.04 SAMPLES

A. Accuracy of Samples: Samples shall be of the precise article proposed to be furnished.

B. Number of Samples Required: Unless otherwise specified, submit all samples in the quantity which is required to be returned plus one which will be retained by the Architect.

C. Reuse of Samples: In situations specifically so approved by the Architect, the Architect's retained sample may be used in the construction as one of the installed items.

2.05 COLORS AND PATTERNS

A. Unless the precise color and pattern is specifically described in the Contract Documents, and whenever a choice of color and pattern is available in a specified product, submit accurate color and pattern charts to the Architect for review and selection.

2.06 SUBSTITUTIONS

A. Approval Required: The Contract is based on the standards of quality established in the Contract Documents.

B. All products proposed for use, including those specified by required attributes and performance, shall require approval by the Architect before being incorporated into the work.

C. Do not substitute materials, equipment, or methods unless such substitution has been specifically approved for this work by the Architect.

D. "Or Equal": Where the phrase "or equal" or "or equal as approved by the Architect" occurs in the Contract Documents, do not assume that materials, equipment, or methods will be approved as equal unless the item has been specifically approved for this work by the Architect.

E. The decision of the Architect shall be final.

PART THREE - EXECUTION

3.01 IDENTIFICATION OF SUBMITTALS

A. General: Consecutively number all submittals. Accompany each submittal with a letter of transmittal containing all pertinent information required for identification and checking of submittals.

B. Internal Identification: On at least the first page of each copy of each submittal, and elsewhere as required for positive identification, clearly indicate the submittal number in which the item was included.

C. Re-submittals: When material is resubmitted for any reason, transmit under a new letter of transmittal and with a new submittal number.

D. Submittal log: Maintain an accurate submittal log for the duration of the Contract, showing current status of all submittals at all times. Make the submittal log available for the Architect's review upon request.

3.02 COORDINATION OF SUBMITTALS

A. General: Prior to submittal for approval, use all means necessary to fully coordinate all material including, but not necessarily limited to:

(1) Determine and verify all interface conditions, catalog numbers, and similar data.

(2) Coordinate with other trades as required.

(3) Clearly indicate all deviations from requirements of the Contract Documents.

B. Grouping of Submittals: Unless otherwise specified, make all submittals in groups containing all associated items to ensure that information is available for checking each item when it is received. Partial submittals may be rejected as not complying with the provisions of the Contract Documents and the Contractor shall be strictly liable for all delays so occasioned.

3.03 TIMING OF SUBMITTALS

A. General: Make all submittals for enough in advance of scheduled dates for installation to provide all time required for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery.

B. Architect's review time: In scheduling, allow at least 10 calendar days for review by the Architect following his receipt of the submittal.

C. Delays: Delays caused by tardiness in receipt of submittals will not be an acceptable basis for extension of the Contract completion data.

3.04 ARCHITECT'S REVIEW

A. General: Review by the Architect shall not be construed as a complete check, but only that the general method of construction and detailing is satisfactory. Review shall not relieve the Contractor from responsibility for errors, which may exist.

B. Authority to Proceed: The notations "Reviewed, no exceptions noted" or "Reviewed, exceptions noted" authorize the Contractor to proceed with fabrication, purchase, or both, of the items so noted, subject to the revisions, if any, required by the Architect's review comments.

C. Revisions: Make all revisions required by the Architect. If the Contractor consider any required revision to be a change, he shall so notify the Architect as provided for under "Changes" in the General Conditions. Show each drawing revision by number, date, and subject in a revision block on the drawing. Make only those revisions directed or approved by the Architect.

D. Revisions After Approval: When a submittal has been reviewed by the Architect, resubmitted for substitution of materials or equipment will not be considered unless accompanied by an acceptable explanation as to why the substitution is necessary.

SECTION 01380

CONSTRUCTION PHOTOGRAPHS

PART ONE - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

A. Definitions: Construction photographs required by this section are intended to provide a visual record of construction progress at regularly scheduled intervals. They provide a means of confirming visually the status of work, insofar as photographed, on the dates recorded on photographs. They are to be used together with other recorded indication of work progress in determining questions, which may arise.

1.02 RESPONSIBILITIES

A. General: Contractor shall engage a commercial photographer to take black-and-white photographs during construction, in the number, times and locations indicated, and to submit prints as indicated.

B. Associated Services: Cooperate with photographer's work at site. Provide auxiliary services as may be reasonably requested, including access and use of temporary facilities including temporary lighting.

1.03 PHOTOGRAPHIC REQUIREMENTS

A. General: Except as additionally required, take 5 project photographs at monthly intervals, coinciding with work cutoff date associated with each monthly payment request. Photographer shall select vantage point for each shot each month so as to best show status of construction and work progress since taking previous photographs.

B. Vantage Points: Comply with Architect's directions from time to time, concerning desired vantage points for shots.

C. Additional Photographs: Architect will issue request to photographer for additional photographs from time to time (in addition to periodic photographs as specified). Additional photographs will be paid for by way of change order; and, except as otherwise indicated, are not included in Contract Sum or Allowance. Architect will give photographer 3 day's notice where feasible; otherwise and in emergency situations, photographer shall respond by taking additional photographs within 24 hours of Architect's request.

1.04 SUBMITTALS

A. General: Refer to Division 1 section on "Submittals" for general requirements of submitting photographs. Submit 3 prints of construction photographs, directly to

Architect within 5 days of shot (exposure). Architect will distribute to Owner one print as Owner's permanent record.

B. Photographer shall retain photographic negatives of submitted photographs, for a period of 3 years after date of substantial completion; and prior to end of 3 year period shall fill orders by Architect for extra photographic prints, priced at prevailing commercial prices.

PART TWO - PRODUCTS

2.01 PHOTOGRAPHIC COPIES

A. General: Provide 8" by 10" glossy color prints or single-weight commercial-grade stock, with extra 1/2" wide margin punched for standard 3-ring binder. Place margin on left edge of vertical shots and at top of horizontal shots. Identify each print on back side by mark-up of either an applied label or a rubber stamped impression; provide the following information:

Name/address of photographer

Name of project

Date of shot (exposure)

Description of vantage point, in terms of location, direction and elevation or story of construction.

PART THREE - EXECUTION

NOT USED.

SECTION 01400

QUALITY CONTROL

PART ONE - GENERAL

1.01 SURVEYS AND LAYOUT

A. The Contractor shall provide the services of qualified personnel, during the contract period, for layout of lines and elevations of buildings and structures including foundation systems, footings and piers, floor and roof systems, pavements, sidewalks, grading, utilities, and landscaping.

1.02 INSPECTION AND TESTING AGENCIES

A. The Contractor shall pay all costs and arrange for a testing agency to provide on site testing of soil compaction, concrete and other items as specified herein. The test shall be fully documented and certified.

B. Individuals performing inspection and testing must be certified by an organization whose certification program is recognized by the jurisdiction involved and is acceptable to the Owner.

1.03 COORDINATION

A. Each subcontractor shall cooperate fully with the inspection and testing required.

B. Subcontractor shall not assume to use the testing by this section as being adequate. Each subcontractor shall maintain his own quality methods in addition to the required testing.

1.04 INSPECTIONS

A. At least twenty-four hours shall be allowed for inspection prior to any test or concrete placement. The inspection will be made after notification that all items have been installed for the test or preparatory for concrete placement. Should the inspection reveal that corrective measures are required or that the work is not complete, and additional twenty-four hours will be allowed to complete the inspection after all work has been corrected or completed.

B. Notification shall be given at least twenty-four hours in advance of backfilling/encasing of any underground utility in order that an inspection may be made of the installation. Failure to provide such notification may require reopening of the trench at the Contractor's expense.

1.05 ACCEPTANCE OF SUBSTRATES

A. Work of the various sections shall not begin until the installing contractor has examined the substrates and has determined that they are acceptable. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the installer. Notice of unsatisfactory conditions shall be given to the Contractor in writing. Proceeding with the work shall indicate acceptance of the substrate by that installer or Contractor.

SECTION 01500
TEMPORARY FACILITIES

PART ONE - GENERAL

1.01 General

A. The Contractor shall arrange and provide temporary facilities and controls as specified herein and as required for the proper and expeditious completion of the work. Pay all cost, except otherwise specified, until final acceptance of the work, unless the Owner makes arrangements for the use of complete portions of the work after substantial completion in accordance with the provisions of the General Conditions.

B. Make all temporary connections to utilities and services in locations acceptable to the Owner, Architect and local authorities having jurisdiction thereof; furnish all necessary labor and materials and make all installations and connections when no longer required; restore the services and sources of supply to proper operating condition.

1.02 PROJECT IDENTIFICATION

A. No signs or advertisements shall be permitted on the premises without the approval of the Inspecting Architect.

1.03 SANITARY CONVENIENCES

A. Contractor shall provide a temporary chemical type sanitary convenience, at an approved location, for use by employees on the Contract. The convenience premises shall receive daily attention and shall be maintained in a clean and sanitary condition and be removed from the site upon completion of the Contract.

1.04 TEMPORARY WATER

A. The Contractor shall make his own arrangements for water for construction and drinking purposes as required.

1.05 TEMPORARY LIGHT AND POWER

A. The Contractor shall furnish and install temporary electric facilities including lamps for construction and safety operations. All temporary facilities shall remain the property of the Contractor, and be removed after permanent which are part of the permanent electrical systems, shall not be used for temporary electrical facilities, unless specifically approved by the Architect. The Contractor shall be responsible for any damage or injury to equipment, materials or personnel caused by temporary electrical installations. Costs for materials and installation of temporary electrical facilities shall be at the Contractor's expense. Contractor shall arrange and pay for energy consumed in providing temporary electrical facilities.

1.06 SECURITY

A. Take sufficient precautions as required to prevent illegal entry or damage during nights, holidays or other periods when work is not being executed and such other control as required during working hours.

B. Provide all temporary enclosures required for protecting the project from the exterior for providing passageways, for the protection of openings both exterior and interior and any other location where temporary enclosures and protection may be required.

C. Take adequate precautions against fire; keep flammable material at an absolute minimum; and ensure that such material is properly handled and stored. Except as otherwise provided herein, do not permit fires to be built or open salamanders to be used in any part of the work.

1.07 TEMPORARY ROADS

A. Provide and maintain in good usable condition temporary roads and access to the site as required. At points of access insure that no mud or debris is carried onto adjacent streets or properties. Any material deposited on adjacent roads or properties shall be removed daily.

1.08 TEMPORARY, LADDERS, RAMPS, RUNWAYS, ETC.

A. Provide and maintain all equipment such as temporary stairs, ladders, ramps runways, chutes, etc. as required for the proper execution of the work.

B. All such apparatus, equipment and construction shall meet all requirements of the local laws applicable thereto.

C. As soon as permanent stairs are erected, provide temporary protective treads, handrails and shaft protection.

1.09 MATERIAL HOIST

A. Provide material hoist as required for use by all trades complete with all guards, safety devices, signals and runways necessary for safe operation in accordance with ANSI A 10.5, the AGC Manual of Accident Prevention in Construction and all applicable state and local codes.

1.10 TEMPORARY FIELD OFFICES

A. Provide and maintain a field office of sufficient size to conduct progress meetings complete with light, toilet facilities, plan racks, desks, tables, chairs, telephone service and other facilities as required to executed the Contract. Contractor is responsible to pay all air conditioning and telephone charges.

B. Construction shanties, sheds and temporary facilities provided as construction required above, or for the Contractor's convenience, shall be maintained in good condition and neat appearance.

1.11 WASTE REMOVAL

A. Provide all labor materials and services for complete waste material disposals. Contractor shall pay for and secure any necessary permits and abide by all applicable local jurisdictional requirements and health codes.

1.03 PROTECTION OF NATURAL RESOURCES

A. Confine construction activities to areas defined by work description, plans and specifications. Preserve in their existing condition or restore to an equivalent or improved condition the natural resources within the project boundaries.

D. Temporarily protect erodible soils by mechanical retardation and control of runoff (ie, diversion ditches, benches, berms) or by the establishment of vegetation and mulch. Slopes too steep for stabilization by other means shall be hydro seeding mulching anchored in place, covering by anchored matting, nodding or any combination of these to insure effective erosion control.

1.05 CONTROL AND DISPOSAL OF SOLID, CHEMICAL AND SANITARY WASTES (DS3)

A. Wastes shall be picked up and placed in containers, which are emptied on a regular schedule.

B. Disposition of wastes shall be as follows:

- (a) Rubbish-an debris: Remove from site and dispose in a manner that complies with federal and state requirements.
- (b) Garbage: If located in an area where garbage scheduled collection is available, place garbage in appropriate containers for pickup and disposal. Otherwise, transport garbage to a disposal area that complies with federal and state requirements.

- (c) Sanitary or Chemical: Provide chemical toilets with wastes periodically emptied in an approved state supervised facility.

1.06 DUST CONTROL (“PFE”)

A. Dust shall be kept down at all times, including non-working hours, weekends and holidays. Soil at the site, haul roads and other areas disturbed by the Contractor's operations shall be sprinkled or treated with dust suppressors as necessary to control dust. No dry power brooming will be permitted. Vacuuming, wet mopping, wet sweeping or wet power brooming shall be used instead. Air blowing will be permitted only for cleaning off non-particulate debris, such as that from reinforcing bars. No sandblasting will be permitted unless the dust there from is confined. Only wet cutting of concrete blocks, concrete, and asphalt will be permitted where concrete mortar and plaster milling is done.

1.07 NOISE CONTROL

A. Noise shall be kept down at all time. Follow standard working hours schedule. Comply with the noise control requirements of the environmental quality board.

SECTION 01700

CONTRACT CLOSEOUT

PART ONE - GENERAL

1.01 CLEANING UP

A. The premises and the job site shall be maintained in a reasonably and orderly condition and kept free from accumulations of waste materials and rubbish during the entire construction period. Remove crates, cartons, and other flammable waste materials or trash from the work areas at the end of each working day.

B. Elevator shafts, electrical closets, pipe and duct shafts, chases, furred spaces and similar spaces that are generally unfinished shall be cleaned and left free from rubbish, loose, plaster, mortar drippings, extraneous construction materials, dirt and dust.

C. Rubbish shall be lowered by way of chutes, taken down on hoists or lowered in receptacles. Under no circumstances shall any rubbish or waste be dropped or thrown from one level to another within or outside the building.

D. Care shall be taken by workmen not to mark, soil or otherwise, deface finished surfaces. In the event that finished surfaces become defaced, clean and restore such surfaces to their original condition.

E. Clean up immediately upon completion of each trade's work.

F. Clean areas of the building in which painting and finishing work is to be performed just prior to the start of this work and maintain these areas in satisfactory condition for painting and finishing. This cleaning includes the removal of trash and rubbish from these areas, broom cleaning of floors, and removal of any plaster, mortar, dust, and other extraneous materials from finish surfaces.

G. In addition to the cleaning specified above and the more specific cleaning that may be required in various sections of the Specifications, the building shall be prepared for occupancy by a through cleaning throughout, including washing (or cleaning by other approved methods) of surfaces on which dirt or dust has collected and by washing glass on both sides. Leave equipment in an undamaged and clean condition. Re-cleaning will not be required after the work has been inspected and accepted unless later operations of the Contractor make re-cleaning of certain portions necessary.

H. Upon completion of the work, remove temporary buildings and structures, fences, scaffolding, surplus materials and rubbish of every kind from the site of the work.

1.02 DOCUMENTS REQUIRED PRIOR TO FINAL PAYMENT

A. Prior to final payment and before the issuance of a final Certificate for Payment in accordance with the provisions of the General Conditions, file the following papers with the Inspecting Architect:

- (1) The guarantee required by the General Conditions and any other extended guarantees stated in the technical sections of the Specifications.
- (2) Consent of surety to release of reitenance of final payment as required by the General Conditions.
- (3) Release of the State Insurance Fund.
- (4) Affidavit, in which the contractor certified that all payments to subcontractors and supplier has been made.

1.03 OPERATION AND MAINTENANCE MANUALS (Record and Information Booklet)

A. Furnish three (3) complete sets of manuals containing the manufacturer's apparatus furnished under the Contract and any additional data specifically under the various sections of the Specifications.

B. Arrange the manuals in proper order, indexed and suitably bound. Certify by endorsement thereon that each of the manual's is complete and accurate. Assemble these manuals and submit them to the Architect. Provide suitable transfer cases and deliver the manuals therein, indexed and marked for each division of the work.

1.04 PROJECT RECORD DOCUMENTS

A. As the work progresses keep a complete and accurate record of approved changes from the Contract Documents and the shop drawings indicating the work as actually installed. Changes shall be neatly and correctly shown on the respective portion of the affected document using black line prints of the drawings affected or the Specifications with appropriate supplementary notes. This record set of "As Built Drawings", shop drawings and Specifications shall be kept at the job site for inspection by the Architect and Owner.

B. The records above shall be arranged in order, in accordance with the various sections of the Specifications and properly indexed. At the completion of the work, certify by endorsement thereof that each of the revised prints of the Drawings and Specifications is complete and accurate. Prior to application for final payment and as a condition to its approval by the Architect and Owner, deliver the record Drawings and Specifications

arranged in proper order, indexed, and endorsed as hereinbefore specified. Provide suitable transfer cases and deliver the records therein, indexed and marked for each division of the work.

C. No review or receipt of such records by the Architect or Owner shall be a waiver of any deviation from the Contract Documents or the shop drawings or in any way relieve the Contractor from his responsibility to perform the work in accordance with the Contract Documents and the shop drawings to the extent they are in accordance with the Contract Documents.

1.05 CERTIFICATE OF OCCUPANCY

A. Obtain and pay any fees related to the Certificate of Occupancy (Permiso de Uso) and deliver to the Architect.

SECTION 01720

PROJECT RECORD DOCUMENTS

PART ONE - GENERAL

1.01 WORK INCLUDED

A. Throughout progress of the work of this contract, maintain an accurate record of all changes in the Contract Documents, as described in this section.

B. Upon completion of the work of this contract, transfer the recorded changes to a set of Record Documents, as described in this section.

1.02 RELATED WORK DESCRIBED ELSEWHERE

Section 01300 submittals

1.03 QUALITY ASSURANCE

A. Delegate the responsibility for maintenance of Record Documents to one person on the Contractor's staff as approved in advance by the Architect.

B. Thoroughly coordinate all changes within the Record Documents, making adequate and proper entries on each page of Specifications and each sheet of drawings and other documents where such entry is required to properly show the change. Accuracy of records shall be such that future search for items shown in the Contract Documents may reasonably rely on information obtained from the approved Record Documents.

C. Make all entries within 24 hours after receipt of information.

1.04 SUBMITTALS

A. The supervisory Architect's approval of the current status of Record Documents will be a prerequisite to the Architect's approval of requests for progress payment and request for final payment under the Contract.

B. Prior to submitting each request for progress payment, secure the Architect's approval of the Record Documents as currently maintained.

C. Prior to submitting request for final payment, submit the final Record Documents to the Architect and secure his approval.

1.05 PRODUCT HANDLING

A. Use all means necessary to maintain the job set of Record Documents

completely protected from deterioration and from loss and damage until completion of the work and transfer of the recorded data to the final Record Documents. In the event of loss of recorded data, use all means necessary to secure the data to the Architect's approval; such means shall include, if necessary in the opinion of the Architect, removal and replacement of concealing materials and, in such case, all replacements shall be to the standards originally specified in the Contract Documents.

PART TWO - PRODUCTS

2.01 RECORD DOCUMENTS

A. Promptly following award of Contract, secure from the Architect one complete set of all Documents comprising the Contract. Pay the nominal fee per set as determined by the Architect.

B. At a time near the completion of the work, secure from the Architect one complete set of sepla transparencies of all drawings included in the contract. Pay the nominal fee per set as determined by the Architect.

PART THREE - EXECUTION

3.01 MAINTENANCE OF JOB SET

A. Immediately upon receipt of the job set described above, identify each of the Documents with the title "RECORD DOCUMENTS-JOB SET"

B. Preservation:

(1) Considering the Contract completion time, the probable number of occasions upon which the job set must be taken out for new entries and for examinations, and the conditions under which these activities will be performed, devise a suitable method for protecting the job set to the approval of the Architect.

(2) Do not use the job set at the site of work as that site is designated by the Architect.

3.02 ENTRIES ON THE JOB SET

A. Using an erasable colored pencil (not ink or indelible pencil), clearly describe the change by graphic line, as required. Date all entries. Call attention to the entry by a "cloud" around the area or areas affected, in the event of overlapping changes, different colors may be used for each of the changes.

B. Where changes are caused by directives issued by the Architect, clearly indicate the change by note in-ink, colored pencil, or rubber stamp.

C. Where changes are caused by Contractor-originated proposals approved by the Architect, including inadvertent errors by the Contractor which have been accepted by the Architect, clearly indicate the change by note in erasable colored pencil.

3.03 CONVERSION OF SCHEMATIC LAYOUTS

A. In most cases on the drawings, arrangements of conduits and circuits, piping, ducts, and other similar items, is shown schematically and is not intended to portray precise physical layout. Final physical arrangement is as determined by the Contractor, subject to the Architect's approval. However, design of future modifications of the facility may require accurate information as to the final physical arrangement of items. Which are shown only schematically on the drawings.

B. Show on the job set of Record Drawings, by dimension accurate to within 25 mm (1"), the centerline of each run of items such as are described above. Clearly identify the item by accurate note such as "cast iron drain", "galv. water", etc. Show, by symbol or note, the vertical location of the item ("under slab", in ceiling plenum", "exposed", etc.") Make all identification sufficiently descriptive that it may be related reliably to the Specifications.

C. The architect may waive the requirements for conversion of schematic data where, in the Architect's judgment, such conversion serves no beneficial purpose. However, do not rely upon waivers being issued except as specifically issued except as specifically issued in writing by the Architect.

3.04 ACCURACY OF ENTRIES

A. Use all means necessary, including the proper tools for measurement, to determine actual locations of the installed items.

3.05 FINAL RECORD DOCUMENTS

A. The purpose of the final Record Documents is to provide factual information regarding all aspects of the work, both concealed and visible, to enable future modification of design to proceed without lengthy and expensive site measurement, investigation, and examination.

B. Following receipt of the sepia transparencies described above, and prior to start of transfer of recorded data thereto, secure a review by the Architect of all recorded data. Make all required revisions.

C. Carefully transfer all change data shown on the job set of Record Drawings to the corresponding sepias, coordinating the changes as required, and clearly indicating at each affected detail and other drawing the full description of all changes made during construction and the actual location of items described above. Call attention to each entry

by drawing a "cloud" around the area or areas affected. Make all change entries on the sepias neatly, consistently, and in ink or crisp black pencil.

D. Submit the completed total set of Record Documents to the Architect. Participate in review meeting or meetings as required by the Architect, make all required changes in the Record Documents, and promptly deliver the final Record Documents to the Architect.

3.06 CHANGES SUBSEQUENT TO ACCEPTANCE

A. The Contractor shall have no responsibility for recording changes in the work subsequent to acceptance of the work by the Owner, except for changes resulting for replacements, repairs, and alterations made by the Contractor as part of his guarantee.

DIVISION 8 METAL DOORS AND FRAMES

SECTION 08100

METAL DOORS AND FRAMES

PART ONE - RELATED DOCUMENTS

The general provisions of the contract, including General and Special Conditions, apply to the work specified in this section.

PART TWO - DESCRIPTION OF WORK

The extent of stock hollow metal doors and frames is shown on the drawings.

PART THREE - GENERAL

Provide stock hollow metal doors and frames manufactured by a single firm specializing in the production of this type of work.

Provide doors and frames complying with the Steel Door Institute "Recommended Specifications for Standard Steel Doors and Frames" (SDI 100), and as herein specified.

Manufacturers offering products to comply with the requirements for stock hollow metal doors and frames include the following:

Trujillo Alto Metal Corp.
American Welding and Mfg. Co.
Ceco Corp.
Dusing & Hunt, Inc.
Fenestra
Mesker Brothers Industries, Inc.
Republic Steel Corp.
Steelcraft Mfg. Co.
Virginia Metal Prods.

PART FOUR - FABRICATION

A. General: Fabricate hollow metal units to be rigid, neat in appearance and free from defects, accurately formed to the required sizes and profiles. Wherever practicable, fit and assemble units in the manufacturer's plant. Clearly identify work, that cannot be permanently factory-assembled before shipment, to assure proper assembly at the project site. Dress all welded joints on exposed surfaces flush and smooth, to be invisible when prime painted. Use of metallic filler to conceal manufacturing defects is not acceptable.

B. Finish Hardware Preparation: Prepare hollow metal units at the manufacturer's plant to receive mortised and concealed finish hardware, including cutouts, reinforcing, drilling and tapping. Comply with applicable requirements of ANS a 115 "Specifications for Door and Frame Preparation" for other mortised and concealed finish hardware to the templates of the manufacturer of each finish hardware item required in the work.

For concealed overhead door closers, provide the required space, cutouts, reinforcing and provisions for fastening in the top rail of doors or the head of frames, as applicable.

Reinforce hollow metal units at the manufacturer's plant to receive surface-applied hardware. Drill and tap for surface-applied finish hardware at the project site during installation.

B. Molding Locations: Provide moldings around solid, glazed or louvered panels in hollow metal units for a rigid and secure installation.

Provide non-removable moldings on the outside of exterior hollow metal units and the corridor side of interior hollow metal units.

Provide removable moldings at all other locations, unless otherwise show.

C. Shop Paintings: Clean, treat and pain all surfaces of fabricated hollow metal units, including galvanized surfaces, whether concealed or exposed in the finished work.

Remove mill scale, rust, oil, grease, dirt and other foreign materials before the application of the shop coat of paint.

Apply shop coat of baked-on prime paint of even consistency to provide a uniform finished surface ready to receive field-applied paint.

D. Stock Hollow Metal Doors: Provide stock hollow metal doors extra heavy duty 1 3/4", complying with S.D.I. 100. Doors shall be fabricated from 16 gauge cold rolled electro-galvanized steel.

Provide weatherproof stationary louners for exterior doors, where shown on the drawings, constructed of z-shaped blades formed of 16 gauge electrogalvanized steel sheets. Space blades not more than 1-1/2" o.c.

Provide sightproof stationary louvers for interior doors where shown on the drawings, constructed of inverted V-shaped or Y-shaped blades formed of 18 gauge cold-rolled steel. Space blades to provide not less than 55% free air opening, unless otherwise shown.

PART FIVE - STOCK HOLLOW METAL FRAMES

A. General: Provide stock hollow metal frames for doors, transoms, side-lights, borrowed lights, and other openings, as shown on the drawings.

Conceal all fastenings unless otherwise shown. Countersink exposed screws using Phillips flat-head screws.

Provide frames of knocked down construction, made from 14 gauge cold rolled electro-galvanized steel.

B. Rubber Door Silencers: Drill stops to receive 2 silencers on strike jambs of single-swing frames and 4 silencers on heads of double-swing frames. Install plastic plugs to keep hole clear during construction.

C. Plaster Guards: Provide 22 gauge steel plaster guards or mortar boxes, welded to the frame at the back of all finish hardware cutout where mortar or other materials might obstruct hardware operation.

PART SEVEN - INSTALLATION

A. General: Install hollow metal units and accessories in accordance with the final shop drawings and manufacturer's data, and as herein specified.

B. Placing Frames: Except for frames located at in-place concrete or masonry, place frames prior to the construction of enclosing walls and ceilings. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces and spreaders leaving surfaces smooth and undamaged.

In masonry construction, locate 3 wall anchors per jamb at hinge and strike levels. Building-in of anchors and grouting of frames is specified in Section 04220.

At in-place concrete or masonry construction, set frames and secure to adjacent construction with machine screws and masonry anchorage devices.

C. Door Installation: Fit hollow metal doors accurately in their respective frames, within clearances specified in S.D.I. 100.

Finish hardware and door installation is specified in Drawings and Section 08710.

D. Final Adjustments: Check and readjust all operating finish hardware items in hollow metal work just prior to final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including doors or frames which are warped, bowed or otherwise damaged.

PART EIGHT - SUBMITTALS

A. Manufacturer's Data: Submit 2 copies of manufacturer's specifications for fabrication and shop painting, and installation instructions. Indicate by transmittal form that one copy of instructions has been distributed to the Installer.

B. Shop Drawings: Submit shop drawings for the fabrication and erection of stock hollow metal doors and frames, as required to supplement manufacturer's data and to show location in building. Include details of each frame type, elevations of door design types, conditions at opening, details of construction, location and installation requirements of finish hardware and reinforcements, and details of joints and connections. Provide details at 3" to 1'-0" scale and dimensioned elevations at not less than 1" to 1'-0" scale. Show anchorages and accessory items. Do not start fabrication until shop drawings are approved in writing.

Section 08110

METAL DOORS AND FRAMES - GENERAL

PART ONE - GENERAL

1.01 SCOPE

A. The contractor shall provide all materials, labor and equipment necessary to furnish, deliver and install all work for this section as required by the drawings and/or herein specified.

B. All materials used in the fabrication of metal doors and frames shall be free from defects impairing their strength, durability or appearance.

C. The contractor shall provide all materials, labor and equipment necessary to furnish, deliver and install all work for this section as required by the drawings and/or herein specified, but not necessarily limited to the following:

1. Hollow Metal Doors.
2. Formed Sheet Steel Frames for doors and fixed view windows.
3. Formed Sheet Steel Louvers in Hollow Metal.
4. Reinforcing, Supporting and Attachment devices for work of this section.
5. Underwriters Laboratories, Inc., Labeled Doors and Frames.
6. Reinforcing for Hardware as required.
7. Prime Painting for all doors and frames.

D. Referenced Standards

1. American National Standards Institute (ANSI).
2. National Builders Hardware Association (NBHA).
3. Builders Hardware Manufacturers Association (BHMA).
4. National Fire Protection Association (NFPA).
5. Building Code "Reglamento de Edificación" - P.R.

6. Código para la Prevención de Incendios del Cuerpo de Bomberos de P. R. - 1989.
7. ASTM A 526/A 526M-90 - Standard Specification for Steel, Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Commercial Quality; 1990.
8. ASTM A 591 - Standard Specification for Electrolytically Galvanized Sheet Steel.
9. ASTM A 569/A 569M-91a - Standard Specification for Steel, Carbon (0.15 Maximun Percent), Hot-Rolled Sheet and Strip Commercial Quality; 1991.
10. ASTM B 749-85(91) - Standard Specification for Lead and Lead Alloy Stree, Strip, and Plate Products; 1985 (Reapproved 1991).
11. SDI 100-1991 - Recommended Specifications; Standard Steel Doors and Frames; Steel Door Institute; 1991.
12. SDI 105-92 - Recommended Erection Instructions for Steel Frames; Steel Door Institute; 1992.

E. Shop Drawings: Submit six (6) copies of shop drawings of all items herein specified to architect for approval. Obtain approval of drawings prior to proceeding with manufacturing. Drawings shall include sizes, details of construction, anchorage, methods of assembly, hardware details and complete information regarding materials, gauges and finish. Approval indicates general conformance with design, but does not relieve contractor of full responsibility for the correctness of the documents furnished or for conformance with the detailed provisions of this specifications.

F. Samples: Submit for approval corner sections of metal frames and hollow metal doors, indicating all construction details, prime coat for frames and doors, submit all required accessories and anchors.

G. Painting: All steel doors are to be thoroughly cleaned and primed to present a smooth surface, and given sufficient coats of baked-on rust inhibiting primer as required to receive finish painting. Frames shall be prime painted at the factory with a dust, zinc oxide primer.

H. Storage: Doors and frames shall be stored in upright position under cover at the building site on wood sills or on floors in a manner that will prevent damage.

I. Manufacturer: The Law requires that local manufactured products be specified. Specifications are based on the published standards of Trujillo Alto Metal Corp.

Other manufacturers must comply with these specific requirements.

J. Labeled Work-Fire Protection: Doors and frames requiring labels as indicated on drawings shall meet the requirements for the ratings noted in accordance with the established procedures of the Underwriter Laboratories, Inc. Doors and frames shall bear the necessary labels separately.

PART TWO - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers: Products of the following manufacturers, provided they comply with the specific requirements of the contract documents, will be considered acceptable:

1. AMWELD Building Products.
2. Basic Industries.
3. Pioneer Industries, Inc.
4. Trujillo Alto Metal Corporation.

2.02 MATERIALS

A. Steel Sheets, Galvanized: ASTM A 526 commercial quality, A60 zinc-iron or G60 zinc coating mill phosphatized or electrogalvanized bonderized with zinc coating as per ASTM-A591.

B. Lead Sheet: Rolled sheet lead, complying with FS QQ-L-201, Grade C or ASTM B 749, type L51120 (chemical lead), in sizes and thicknesses indicated.

2.03 FABRICATION

A. General: Shop-fabricate assemblies to greatest extent possible assuring that installed units will be without warp, twist, bow or other defects in appearance or function.

B. Exposed Panel Faces: Fabricate from cold-rolled electrogalvanized bonderized steel.

C. Exposed Door Faces: Fabricate from cold-rolled electrogalvanized bonderized steel.

D. Frames: Fabricate from cold or hot rolled electro or hot dipped galvanized steel.

E. Top and Bottom Channels, Stiffeners and Reinforcements: Fabricate from cold rolled electrogalvanized steel. For reinforcements heavier than 11 gauge fabricate from cold-rolled steel.

F. Louvers and Glass Mouldings: Fabricate Louvers and Mouldings from cold-rolled electrogalvanized steel.

G. Seal top and bottom edges with an added 16 gauge electrogalvanized steel channel to form a flush closure.

H. Exposed Screws and bolts: Where required, provide only countersunk, flat Phillips-head fasteners.

2.04 STEEL DOORS:

A. General: Fabricate doors for scheduled openings in styles and sizes as shown on drawing and in accordance with the best known industrial practice for custom hollow metal doors. Doors to be no less than 1 3/4" thick.

B. Doors shall be fabricated from electrogalvanized Steel sheets of gauges herein after specified. Doors shall be of 14 gauge or of gauges shown on contract drawings.

C. Core Material: All interior doors shall be free of blemishes and spot welding marks with a honeycomb core of not more than 3/4" cell. All exterior doors shall have a polystyrene core. Provide polystyrene core at all exposed exterior doors.

D. Door Louvers; Where called for on contract drawings, provide non removable 16 gauge electrogalvanized louver blades of the inverted AV@ type for interior doors and 14 gauge electrogalvanized storm proof louver blades at exterior doors. Louver blades shall be rigid, leveled, equally spaced to present a neat appearance. Louver shall provide 5/8" clearance between louver blades. Louver blades shall be set into 16 gauge electrogalvanized steel frame. Pre-assembled louver blades with frame is to be inserted within the core of the door and welded to both faces of door.

E. Closure Channels: Provide a non removable (welded) Top and bottom closure channels of 16 gauge electrogalvanized steel running the full width of the door to provide a flush cover top and bottom. Closure channel to be welded to both faces of door.

F. Meeting Style: Provide a double integral astragal interlocked between active and inactive door and/or as shown on contract drawings. Astragal shall provide latch protection from both sides of door. Astragal shall be flush to door surface on both sides.

G. Door Panels: Where metal panels are required provide such panels of same gauge and thickness as metal door and fabricated from electrogalvanized steel.

H. Door Glass Moldings: Glass moldings shall consist of a four sided fixed moulding on the exterior side of door and a loose molding on the interior side. The glass molding on the exterior side shall be nonremovable fabricated from 16 gauge electrogalvanized steel. Exterior fixed molding shall be welded to the interior of the door prior to assembly of door. Molding shall be no less than 5/8" deep and factory pre-fitted for a neat appearance. The removable glass molding shall be 5/8" deep made of 16 gauge electrogalvanized steel. Loose moldings shall be factory pre-fitted and pre drilled and countersunk for 1/4" round flat head machine screw.

I. Beveled Edges: In order to maintain the minimum possible clearance at jambs provide doors with beveled edges. Rate of bevel shall be one eighth (1/8") of an inch in two (2") inches.

J. All doors shall be mortised reinforced, drilled, and tapped for all specified mortise hardware and reinforced only for surface applied hardware. Drilling and tapping for surface applied hardware to be done at time of installation.

2.05 STEEL FRAMES AND BORROWED LIGHT FRAMES

A. General: Fabricate steel frames for scheduled openings, in sizes, styles, and profiles as shown.

B. Frames shall be fabricated from 14 gauge electrogalvanized steel. Frames to be knotted, mitered and mechanically interlocked to a hairline joint at forty five (45) degrees. Frames shall be factory assembled and fully welded. Where indicated on drawings frames shall be provided with invisible corner joints.

C. Frames are to be mortised reinforced drilled and tapped for all mortise hardware. They shall be factory reinforced only for surface applied hardware.

D. Guards: Weld protective covers to back of hardware openings at locations where grout plaster or other materials might interfere with hardware operations.

E. Corner Clips: Provide corner clip reinforcements at head and jamb joints. Corner clips to be of no less than 16 gauge electrogalvanized steel. Corner clips are to be factory welded to both head and jambs.

F. Steel Spreaders: Provide steel spreaders at bottom of jambs temporarily attached to serve as brace during transportation and handling of frames prior to installation. Remove brace only after frame has been properly set and braced.

G. Vision Panels and Transom Panels frames where adjacent to door frames shall be fabricated integral with and of same gauge and type of steel as the door frame.

H. Conceal all fastenings unless shown otherwise. Use 1/4" round flat head machine screws where exposed at applied stops.

I. Provide additional 12 gauge electrogalvanized steel reinforcement channel at head of frames on openings over 54" wide with a masonry load above.

2.06 DOOR AND FRAME REINFORCEMENTS

A. Prepare hollow metal units at the manufacturers plant to receive mortised and concealed finish hardware, including cutouts, reinforcing, drilling, and tapping. Comply with the applicable requirements of these specifications, and with the specific requirements of the hardware template drawings of the manufacturer of each finish hardware specified. In addition all door and frame reinforcements with the exception of hinge reinforcements shall be fabricated from electrogalvanized bonderized steel of U.S. Standards gauges specified herein.

B. Hinge Reinforcements: Provide 8 gauge steel reinforcement specially stiffened for added bending resistance at every hinge cutout. Plain hinge reinforcement of 6 U.S. gauge will be acceptable in lieu of the above.

C. Door and frame parts fabricated from 14 gauge electrogalvanized steel shall be provided for all specified hardware. Use 12 gauge for strikes, flush, bolts, exit devices, pull plates, closers and holders. Other reinforcements as recommended by Hardware Manufacturer. Use AHAT@ type reinforcement on all Apull@ hardware. AHAT@ type reinforcement to be welded on the interior of push side hardware.

2.07 FIRE PROTECTION U.L. LABELED

A. Doors and frames requiring labels as indicated on drawings shall meet the requirements for the ratings noted in accordance with the established procedures of the Underwriter Laboratories, Inc.. Doors and frames shall bear the necessary labels separately. Manufacturer must submit a certificate of compliance and good standing with the Underwriters Laboratories, In., methods and follow-up procedures.

B. In the case of local manufacturers representative submitting doors and frames with labels, evidence of actual purchase of merchandise must be submitted so that the architect may establish that the doors and frames being incorporated to the project, were specifically fabricated for this project and that records of compliance will be available if needed.

C. The contractor must obtain from the manufacturer and provide an itemized list of serial numbers of labels being used on the project with door identification and location, together with label classification, name and address of manufacturer issuing the label, manufacturer order number, and Underwriters Laboratories file number under which label is issued.

2.08 ANCHORS

Shall be fabricated from 16 gauge electrogalvanized steel. Provide no less than three anchors per jamb or no less than one anchor for every applied hinge. Submit manufacturers anchoring standard method for the various wall conditions shown on drawings. Provide anchors at no more than 30 inches on centers.

2.09 FINISH HARDWARE

A. A contractor shall obtain all required templates from hardware supplier and furnish same to hollow metal manufacturer to be used in the fabrication as directed. See builders hardware section 08710 for detailed information.

PART THREE - EXECUTION

3.01 INSTALLATION

A. Installation of Frames: Install frames at designated (tagged) location in accordance to contract requirements. Installation shall be plumb straight and true, rigidly secured in place and properly braced. Frames shall be anchored securely to concrete floors.

1. Set frames in their correct locations, plumb, true and adequately braced to prevent displacement during erection of walls and partitions.
2. Except for frames located at in-place concrete or masonry, place frames prior to the construction of enclosing walls and ceilings. Set frames accurately in position, plumbed, aligned and braced securely until permanent anchors are set.
3. Install one wall anchor for every hinge provided on frame. Provide no less than three wall anchors per jamb. Submit details of frame anchorage for in-place concrete or masonry walls, for the approval of owner engineers.

B. Installation of Doors: Install the pre-designated (tagged) door at the indicated location shown on contract drawings. Verify compliance with door type required and hardware preparation. Revise and correct all scratches and dents prior to installation.

C. Final Installation: Do not finally install hardware until all plastering and painting is completed and the building is totally dry.

D. Silencers: Door silencers shall be installed after installation is completed. Three silencers for single doors and two for head of pair of swing doors. Door manufacturer shall submit silencers for approval.

E. Maximum Clearances at all Openings. In order to maintain clearances to a minimum provide beveled edge doors at a rate of one eighth of an inch in two inches.

1. At top rail 1/8"
2. At hinge and lock 1/8"
3. At floor or saddle 3/8"

F. All doors and frames shall be properly marked and or tagged at factory for proper identification at job site.

SECTION 08710

BUILDERS HARDWARE

PART ONE - GENERAL

1.01 SECTION INCLUDES:

- A. Builders hardware for doors.

1.02 RELATED SECTIONS:

- A. Hollow metal doors and frames - Section 08110.

1.03 REFERENCES:

- A. American National Standards Institute (ANSI):

1. ANSI 156.1 - 1988 - Butts and hinges.
2. ANSI 156.2 - 1983 - Bored & preassembled locks.
3. ANSI 156.3 - 1984 - Exit devices.
4. ANSI 156.4 - 1986 - Door control (Closers).
5. ANSI 156.5 - 1984 - Auxiliary locks.
6. ANSI 156.13 - 1987 Mortise locks & latches.
7. ANSI 156.16 - 1989 - Auxiliary hardware.
8. ANSI 156.18 - 1987 - Materials & finishes.
9. ANSI 117.1 - 1986 - Providing accessibility and usability for physical handicapped people.

- B. National Builders Hardware Association (NBHA):

1. Recommended Locations for Builders Hardware - 1975.
2. Basic Builders Hardware - October 1969.

- C. Builders Hardware Manufacturers Association:

1. Directory of Certified Locks & Latches - June 1989.
2. Directory of Certified Door Closers - July 1989.

- D. National Fire Protection Association (NFPA):

1. NFPA 80 - Fire Doors and Windows.
2. NFPA 101 - Life Safety Code 1988.

- E. Building Code (Reglamento de Edificación) - P. R.:

1. Reglamento de Planificación Núm. 7".
2. Enmiendas al Reglamento de Edificación.

1.04 QUALITY ASSURANCE:

A. Hardware shall conform to the following standards:

1. All butts shall comply with ANSI A2112 and A2133.
 - a. Butts on outswinging exterior doors shall have non-removable pins (NRP).
2. Locksets and latches shall meet the following minimum ANSI standards:
 - a. Heavy duty cylindrical locks - ANSI Series 4000, Grade 1.
 - b. Mortise Locks-ANSI Series 1000, Grade 1 test requirements.
 - c. Use UL approved locks on labeled fire doors.
3. Door closers shall comply with ANSI Series CO2021, Grade 1 with cast iron case and adjustable backneck. Closers for reverse bevel doors and all doors opening towards a hallway shall comply with ANSI Series CO2021, Grade 1 and be sized according to the manufacturer=s recommendation.
4. Exit devices shall be of the modern push bar type, ANSI Grade 1. All pair openings with a combination mortise and vertical rod device shall be equipped with an openback strike. Pair openings with a combination Rim and vertical rod device and door closers on each door, shall be equipped with a type 21 door coordinator.

1.05 SUBMITTALS:

A. The hardware supplier shall submit seven (7) copies of a complete hardware schedule for approval. See Division 1 of the Specification.

1. Preface sheet listing category only and manufacturer name of items being furnished, as follows:

<u>Category</u>	<u>Specified</u>	<u>Scheduled</u>
Hinges	Mfg. AA@	Mfg. AB@
Locksets	Mfg. AC@	Mfg. AD@
Kickplates	Open	Mfg. AX@

2. For hardware locations, see Article 3.3 - Locations.

3. Open description: Single or pair, number, room locations, hand, active leaf, degree of opening, size, material, frame material, and fire rating.
4. Hardware description: Quantity, category, product number, fasteners, and finish.
5. Headings that refer to the specified Hardware Set Numbers.
6. Scheduling sequence shown in Hardware Sets.
7. Product data of each hardware item and shop drawings, where required, for special conditions and specialty hardware.
8. Vertical scheduling format only. Horizontal schedules are not acceptable.
9. Typed copy.
10. Double spacing.
11. Eight and one-half by eleven inch (8 1/2" x 11") sheets.
12. U.S. Standards finish symbols.

B. Samples: Submit sample of each type of builders hardware item proposed for project. If approved, samples may be used in project.

1.06 DELIVERY, STORAGE AND HANDLING:

A. Package and deliver hardware items separately and mark each to correspond with heading numbers on hardware schedule.

B. Include necessary instructions, templates, drawings and fasteners for proper installation.

1.07 JOB CONDITIONS:

A. Furnish templates to the hollow metal and frame manufacturer as required for installing the hardware to avoid any delay in fabrication.

B. See Article 3.3 - Locations, and coordinate with templates.

C. Sub-contract the furnishing of builders hardware to a recognized local builders hardware representative for the lockset being furnished. The local hardware supplier must have been furnishing builders hardware for a period of not less than 5 years

and must have in his employment an experienced hardware consultant who is available at all reasonable times during the course of the work for project hardware consultation to the owner or architect. The hardware supplier must carry a substantial inventory of the type and make of the lockset, closer, exit device, etc. being furnished. This inventory must be made available to the owner during the duration of this contract and for maintenance purposes.

PART TWO - PRODUCTS:

2.01 MANUFACTURERS:

A. General:

1. Products are listed in a brand name only to establish a standard of quality.
2. Equivalent products, as described in section 2.2 of these specifications, are acceptable substitutions.

B. Lock and latches:

1. Corbin Russwin
2. Sargent

C. Door Closers:

1. Corbin Russwin
2. Dorma
3. LCN

D. Manufacturers of other items:

1. Butts: Soss, Stanley or McKinney.
2. Exit Devices: Corbin Russwin, Sargent, Von Duprin.
3. Floor Closers & Pivots: Dorma or McKinney.
4. Overhead Door Holders: Corbin Russwin.
5. Door Pulls: Rockwood, Trimco.
6. Protective Plates: Rockwood, Trimco.
7. Bolts: Rockwood, Trimco.
8. Stops: Rockwood, Trimco.

2.02 LABEL REQUIREMENTS:

A. Furnish Underwriters Laboratories, Inc. approved hardware items, meeting requirements of NFPA 80, at doors scheduled to be label doors.

2.03 FINISHES:

- A. Butts and Pivots: 626.
- B. Locksets, Deadlock and Latches: 626 (Except MS1850-628).
- C. Exit Devices: 626.
- D. Closers: Sprayed aluminum to match; 626 on Floor Type.
- E. Pulls & Plates: 630.
- F. Stops/holders: 626.
- G. Thresholds: 628.
- H. Flush Bolts: 626.

2.04 KEYING:

A. Key and masterkey in accordance with owner=s requirements and approved keying schedule. Furnish 2 change keys for each lock and 2 ea. master keys.

B. Furnish a complete key control system that provides tags for each individual change key and a key cabinet that will hold 150% of the key capacity of the building.

PART THREE - EXECUTION:

3.01 EXAMINATION:

A. Examine door frames and related items for conditions that would prevent proper application of builders hardware.

B. Do not proceed until defects are corrected, with approval obtained from owner or his designated representative.

3.02 INSTALLATION:

A. Install hardware according to manufacturer=s printed instructions and to template dimensions. See Article 1.6.

B. All hardware shall be installed in a neat workmanlike manner by experienced workmen and left in perfect working condition. Any hardware lost or damaged shall be replaced at no additional cost to the owner.

3.03 LOCATIONS:

- A. Dimensions are from finish floor to center line of items.
- B. This list to be included in Hardware Schedule:

Category

Dimension

Hinges	Door manufacturer stdr.
Flush Bolt Levers	72" and 12"
Knobs	Door manufacturer stdr.
Exit Device Crossbars	Manufacturer=s Template
Push Plates	52"
Pull Plates	42"
Wall Stops	At Head

3.04 FINAL ADJUSTMENT:

A. Provide the services of a representative to inspect material furnished and its installation and adjustment, to make final hardware adjustment, and to instruct the Tenant=s personnel in adjustment, care and maintenance of the hardware.

3.05 HARDWARE SETS:

SECTION 08800

GLASS AND GLAZING

PART ONE - GENERAL

1.01 SCOPE: Provide all glass and glazing, complete, in place, as shown on the Drawings, specified herein, or needed for a complete and proper installation.

A. Related Work Described Elsewhere:

1. Glass and glazing are required under various Sections of these Specifications.

1.02 QUALITY ASSURANCE

A. Qualifications of installers: Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.03 SUBMITTALS

A. General: Comply with the provisions of Section 01300.

B. Product Data: Within 45 calendar days after award of the Contract, submit:

1. Complete materials list showing all items proposed to be furnished and installed under this Section.

2. Sufficient data to demonstrate that all such materials meet or exceed the specified requirements.

1.04 PRODUCT HANDLING

A. Protection: Use all means necessary to protect the materials of this Section before, during and after installation and to protect the work and materials of all other trades.

B. Replacements: In the event of damage. Immediately make all repairs and replacements necessary to the approval of the Owner at no additional cost.

PART TWO - PRODUCTS

2.01 GLASS

A. Tempering: Provide heat-strengthened (tempered) glass where called for on the Drawings or in these Specifications, and where such heat-strengthening or tempering would be required under provisions of the Puerto Rico Planning Board Code, 1973 edition.

B. Glass Types:

a. Glass for storefront and doors shall be 1/4" clear or solar bronze plate glass, complying with Fed. Spec. and with a visible transmittance of 52% in the 1/4" thickness.

b. Glass for fixed interior partition shall be clear safety glass complying with Fed. Spec. DD-G-451, Type 1, class 1, quality 93, 1/4" thickness, and with a visible transmittance of 86%.

C. Plastic Types

a. Lexan for storefront and doors shall be 1/4" clear or solar bronze where called for on the drawings.

b. Acrylic for storefront and doors shall be 1/4" clear or solar bronze where called for on the drawings.

2.02 Expansion strips, asphalt emulsion, waterproofing agent and any other required material or accessory shall be as produce and/or recommended by the glass manufacturer.

2.03 Use of metal sash putty will not be permitted, but compound conforming to Fed. Spec. TT-G-410 will be permitted. The use of nonskinning compounds, non-resilient type preformed sealers, and preformed impregnated type gaskets will not be permitted.

2.04 GLAZING ACCESSORIES

Provide all glazing accessories required to supplement those accessories which accompany the items to be glazed, and as needed to provide a complete installation, including glazing points, clips, shims, angles, beads, setting blocks, and spacer strips. Use ferrous metal, which will be exposed in the finished work, which has a finish that will not corrode or stain while in service.

PART THREE - EXECUTION

3.01 INSPECTION

Examine the areas and conditions under which work of this Section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until satisfactory conditions have been corrected.

3.02 INSTALLATION

A. Selection of glass: Where plate glass is indicated or specified, float glass may be used.

B. Distortion: Cut and install glass with the visible lines or waves running with the horizontal direction.

C. Fix movable items securely, or in a closed and locked position, until glazing compounds has thoroughly set.

D. Glass Setting:

1. Items to be glazed shall be shop-glazed or field-glazed with glass of the quality and thickness specified.

2. Prepare surrounds and glass, unless otherwise directed, in conformance with one of the glazing methods described in the standards under which they are produced.

3. Aluminum windows and wood doors may be glazed in conformance with one of the glazing methods described in the standards under which they are produced.

4. Use beads or stops furnished with the items to be glazed to secure the glass in place.

5. Use insulating units which do not have corners or edges ground, nipped, cut, or fitted after leaving the factory. Do not subject units to spring, forcing or twisting during setting. Handle so as not to strike the setting frames or other objects.

3.03 CLEANING

In addition to the requirements of Section 01710 of these Specifications, and prior to acceptance of the work, thoroughly clean all glass and remove all labels, paint spots, putty, and other defacements.

SECTION 08210

WOOD DOORS

PART ONE - GENERAL

1.01 RELATED DOCUMENTS

The general provisions of the Contract, including General and Special Condition apply to the work specified in this section.

1.02 DESCRIPTION OF WORK

The extent and location of flush wood doors is shown on the drawings.

Louvers for wood doors, including furnishing and installation, are specified under this section.

1.03 QUALITY ASSURANCE

A. Standards: Comply with the requirements of the NWMA Industries Standard I.S., 1 "Wood Flush Doors" of the National Woodwork Manufacturer's Association.

1.04 SUBMITTALS

A. Manufacturer's Data: Submit for approval of owner, 2 copies of door manufacturer's specifications and installation instructions including other data as may be required to show compliance with the specified requirements.

Submit, for the approval of owner shop drawings of all millwork before any work is begun.

Include details of core and edge construction, trim for openings and louvers (if any) and similar components.

Include certifications to show compliance with the specifications.

B. Guarantee: Submit 2 copies of written agreement signed by the Manufacturer, Installer and Contractor, agreeing to repair or replace defective doors which have warped (bow, cup or twist) or which show photographing of construction below in face veneers, as defined in NWMA Standard Door Guarantee.

The guarantee shall also include refinishing and reinstallation which may be required due to repair or replacement of defective doors. Guarantee shall be in effect during one year after the date of acceptance.

1.05 DELIVERY, STORAGE AND HANDLING

Protect Wood doors during transit, storage and handling to prevent damage, soiling and deterioration.

1.06 MATERIALS

A. Wood: Unless otherwise noted on drawings all wood shall be Douglas Fir treated as per Section 06400.

B. Adhesives: Type II for interior doors.

1.07 GENERAL FABRICATION REQUIREMENTS

A. Openings: Cut and trim openings through doors and panels when shown on drawings. Comply with the applicable requirements of the referenced standards for the kinds of doors required.

B. Wood Louvers: Factory install louvers of the size, type and profile shown in prepared openings.

1.08 HOLLOW CORE FLUSH DOORS

A. Core Type: Provide wood ladder core, cellular core or implanted core.

B. Face Panels: 2 or 3-ply wood panels

1.09 INSTALLATION

Condition doors to average prevailing humidity in installation area prior to hanging. For installation of hardware see Section 08710 of these specifications. Install wood doors in accordance with manufacturer's instructions and as shown.

A. Clearances: For non-fire doors provide clearances of: 1/8" at jambs and heads; 1/8" at meeting stiles for pairs of doors; and 1/2" from bottom of door to top of decorative floor finish or covering, except where threshold is shown or scheduled provide 1/4" clearance from bottom of door to top of threshold.

B. Finishing: See Section 09900 of these specifications for requirements for finishing wood doors.

1.10 ADJUST AND CLEAN

a. Rehang or replace doors which do not swing or operate freely, as directed by owner.

- b. Refinish or replace doors damage during installation, as directed by the owner.
- c. Protect installed wood doors from damage or deterioration until acceptance of the work.

SECTION 08710

FINISH HARDWARE

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work Included: Furnish finish hardware required to complete the work as shown on the drawings and as specified herein.

Furnish trim attachments and fastenings, specified or otherwise required, for proper and complete installation.

Deliver to the job site those items of finish hardware scheduled to be installed at the job site; and deliver to other points of installation those items of finish hardware scheduled to be factory installed.

B. Related Work: Documents affecting work of this section include, but are not limited to, General Conditions, Supplementary Conditions and Special Conditions of these Specifications.

Installation of finish hardware as described in these specifications.

C. Definitions: Hardware groups described in the Hardware Scheduled in Part 4 of this Section are as shown on the door scheduled.

D. Material Origin: All products to be furnished and installed under, this section of the specifications must be the product of the industry of the United States of America. No foreign made item shall be considered for approval. Manufactured items carrying the name and or brand of a continental USA manufacturer but fabricated in a foreign country shall not be considered for approval. Contractor must finish hardware.

1.02 SUBMITTALS

A. Hardware list and Catalog Cuts: Submit for approval a listing of each item of finish hardware and a manufacturers catalog cut for each different item of hardware, submit hardware list in the following form.

Hardware item	Reference Publication Type No.	Mfg. Name and Catalog No.	U.L. Mark (If Fire Rated Listed)	BHMD Finish Designation
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B. Hardware Scheduled: Submit for approval. Include for each item the quantity, manufacturers catalog number, corresponding reference publication type number,

size, finish, key control symbols, and UL Mark (if fire rated and listed).

C. Certified Test Reports: Indicate that each item listed under hardware meets the standard for the specified item. A copy of the listing of proposed hardware items in the current applicable BHMA directories of certified products may be submitted in lieu of test reports.

D. Samples: Deliver samples of each finish hardware item if so requested. All samples will be returned to the contractor; provided that those samples which are approved are positively identified and are installed in the work at locations agreed to.

E. Templates: In a timely manner to assure orderly progress of the work, deliver templates or physical samples of the approved finish hardware items to pertinent manufacturers of interfacing items such as doors and frames.

F. Delivery and Marking: Deliver hardware in original individual containers, complete with necessary appurtenances including fasteners and instructions. Mark each individual containers, with manufacturer's name, catalog number, as shown in hardware scheduled. Deliver construction master keys with the locks.

PART TWO - PRODUCTS

A. Hardware Manufacturers and Modifications. Provide as for practicable, locks, hinges, and closers of one lock, hinge, or closer manufacturer's make. Modify hardware as necessary to provide features indicated or specified.

B. Hardware Designation: Hardware items are specified by name of manufacturer with a list of approved equals. Designated items are covered by ANSI/BHMA Standards. Latest publication apply.

C. Hardware for Fire Doors and Exit Doors. NFPA 101 for Fire Doors and NFPA-101 for Exit Doors, as well as other requirements specified, such hardware shall bear the UL Label and be listed in UL Building Materials Directory for class of door required.

D. Where butts are required to swing 180 degrees, furnish butts of sufficient throw to clear the trim.

E. Furnish silencers for door frames at the rate of three for each single door, and two for each door of pair of doors; except wheatherstrip doors and doors with light seals or sound seals.

F. Hardware items: Conform to the respective standards listed and to requirements specified herein. Hinges, locks, latches, exit devices, bolts, and closers shall bear the manufacturer's name or trademark where it will be visible after the item is installed. For closers with covers, the name or trademark may be beneath the cover. Provide hardware items as specified below and as listed under Hardware sets.

1. Hinges: Maximum spacing between hinges shall not exceed 30". Exterior doors and all doors over 36" wide shall be provided with 4.5" x 4.5" heavy duty "ball bearing" hinges. All interior openings for doors of 36" wide or less shall have 4.5" x 4.5" standard duty plain bearing hinges, except openings with a door closer which shall have 4.5" x 4.5" standard weight ball bearing hinges. All exterior hinges shall be provided with non-removable pin. Vandal resistant doors with exposed hinges, shall also be provided with non-removable pins. All hinge pins shall be of bronze. All steel hinges shall have a zinc-rich base, bonderized with the specified finish. Stanley "K" base, Soss "R" and McKinney "S" zinc base are acceptable.

2. Locks and latches: All locks and latches shall be of the heavy duty type with 2 3/4" backset and 1/2" minimum latch throw. All locks and latches to have a 26 finish.

3. Auxiliary Locks: Mortise deadlocks are to be provided where called for. Deadlocks latches shall have a 1" throw. Finish to be 260. Acceptable manufacturers mortised deadlocks are listed herein.

4. Exit Devices: Provide Exit Devices where called for. Device shall bear the seal of the Underwriters Laboratories, Inc. for fire exit hardware. It shall be of the push bar design, non-handed and with a 3/4" minimum latch bolt throw. It shall have a deadlocking latch bolt and concealed mounting screws. In the case of double exit doors, both exit devices shall bear the seal of the Underwriters Laboratories separately.

5. Padlocks: Provide padlocks where indicated on hardware schedule and in addition provide one padlock for every steel gate on the job. Padlocks to have interchangeable cores and to be master keyed with the balance of the job, as required by the Owner.

6. Keying: Provide factory key, master key, and grand master key locks and cylinders as directed by the owner. Furnish three keys for every lock, twelve master keys for each set and three grand master keys. Provide a construction master key system with 15 keys for locks and cylinders. Only the construction keys are to be used during the duration of the project. Upon substantial completion of the work, and as directed by the owner void the construction key system and, in the presence of the owner's representative, demonstrate that the specified keying system is operating properly. The factory shall stamp permanent keys "Do not Duplicate". Each permanent key shall be identified with tags and sent directly to the owner by registered mail or personal delivery.

7. Lock Cylinders: Provide cylinders for all locks including locks provided under other sections of this specifications. Cylinders shall have six pin

tumblers and shall be products of the same manufacturer. Cylinders shall have interchangeable cores which are removable a special control key. Provide temporary cores for use during construction.

8. Closers: Provide closers complete with brackets, arms mounting devices, fasteners, pivots and other features necessary for the particular application. Size closers in accordance with manufacturer recommendations and list sizes in the hardware scheduled. All closers shall be mounted on door side opposite public corridors. All exterior doors shall have parallel arm application. All bathroom/locker and building entrance doors shall have closers with delayed action. Clearly and permanently mark on the arm of the closer, the manufacturers name. In addition, the manufacturers size designation shall be clearly marked in the body of the closer. Provide special tools for adjustment of door closing devices as required for proper installation. Also provide a full parts list for each series door closer. Acceptable list of closers is include indicating manufacturers and type.

9. Width of Push/Pull plates to be 1 1/2" less than door style; kick and Armor plate width shall be 2" less than door width. Height of Push/Pulls to be 14"; kick plates 10" and Armor 40". All to be supplied in 18ga.-32D finish.

10. Door Pulls, closers, holders and other pulling devices shall be provided with machine screws. Metal doors shall be reinforced with 12 gauge hat type reinforcements to receive the pulling device. Provide information indicating type of screws being provided on the hardware schedule.

11. Key Cabinet and Control System: ANSI/BHMA A1665. Locate the key cabinet where directed by the owner. Tag one set of file keys and one set of duplicate keys. Place other keys in appropriate marked envelopes, or tag each key. Furnish complete instructions for set-up and use of key control system. The cabinet shall be of adequate capacity to contain all keys, plus 10% additional capacity with two tags.

PART THREE - ACCEPTABLE PRODUCTS

A. Single Source for Items: To the extent practicable, furnish similar items as the product of a single manufacturer.

PART FOUR - EXECUTION

A. Deliveries: Stock pile items sufficiently in advance to assure their availability, and make necessary deliveries in a timely manner to assure orderly progress of the total work.

B. Coordination: Coordinate as necessary with work of other trades to assure proper and adequate provision in the work of those trades for interface with the work of this

section.

C. Installation: Install hardware in accordance with manufacturers printed instructions. Fasten hardware to metal surfaces eight sheet metal screws. Use machine screws set in expansion shields for fastening hardware to concrete and masonry surfaces. Use wood screws for fastening of hardware to wood surfaces.

D. Acceptance of Work: After installation, protect hardware from paint, stains, blemishes, and other damage until acceptance of work. Submit notice of testing 15 days before scheduled so that testing can be witnessed. Adjust hinges, locks, latches, bolts, holders, closers, and other items to operate properly. Demonstrate that permanent keys operate respective locks and hand the keys to the owner. Correct, repair, and finish as directed, errors in cutting and fitting and damage to adjoining work.

FIRE DOORS AND EXIT DOORS

Install hardware in accordance with NFPA 80 for fire doors and FPA 101 for exit doors.

PART FIVE - HARDWARE SCHEDULE

See Plans.

DIVISION 9 FINISHES

SECTION 09660

RESILIENT TILE FLOORING

PART ONE - GENERAL

A. Related Documents: The general provisions of the Contract, including General and Special Conditions apply to the work specified in this section.

B. Description of work: The extent of resilient flooring and accessories is shown on the drawings and in schedules.

C. Quality Assurance: Wherever possible, provide resilient flooring and accessories produced by a single manufacturer.

D. Submittals: Manufacturer's Data: Submit 2 copies of manufacturer's specifications and installation instructions for each type of resilient flooring and accessory required.

Samples: Submit 3 sets of samples of each type, color and finish of resilient flooring and accessory required. Provide 9" square samples of flooring and 6" long sample of accessory. Include full range of flooring color and pattern variation.

Maintenance Instructions: Submit 2 copies of manufacturer's written instructions for recommended maintenance practices for each type of resilient flooring and accessories.

E. Colors and Patterns: Provide colors and patterns as shown or scheduled, or as selected by Architect from manufacturer's standards.

F. Materials: Provide tile, base & edge strips of the types shown on drawings.

Asphalt Tile: 9" x 9", 1/8" gage, FS SS-T-312, Type I

Rubber Tile: 9" x 9", FS SS-T-312, Type II

Vinyl Tile: 12" x 12", 1/8" gage, FS SS-T-312, Type III

Vinyl Asbestos Tile: 12" x 12", 1/8" gage, FS SS-T-312, Type IV

Resilient Base: Provide 4" high, 1/8" gage, top-set cove base complying with FS SS-W-40, Type I for vinyl base and Type II for rubber base, with matching end stops and preformed or molded corner units. Base shall be either vinyl or rubber as shown on drawings.

Resilient Edge Strips: 1/8" thick, homogeneous vinyl or rubber composition, tapered or bullnose edge, color to match flooring, or as selected by Architect from standard

colors available; not less than 1" wide.

Metal Edge Strips: Provide butt type edge strips of extruded aluminum with mill finish for concealed anchorage. Strips shall be of width shown and of required thickness to protect exposed edge of resilient flooring. Provide units of maximum available length, to minimize number of joints.

Adhesives: Waterproof, stabilized type as recommended by flooring manufacturer. Asphalt emulsions and other nonwaterproof types not acceptable.

Concrete Slab Primer: Non-staining type as recommended by flooring manufacturer.

G. **Inspection:** Installer must examine the areas and conditions under which resilient flooring is to be installed. Notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

H. **Preparation:** Prior to laying flooring, broom clean or vacuum surfaces to be covered and inspect subfloor. Start of flooring installation will indicate acceptance of subfloor conditions and full responsibility for completed work.

Apply concrete slab primer, if recommended by flooring manufacturer, prior to application of adhesive. Apply in compliance with manufacturer's directions.

I. **General:** Install flooring after finishing operations, including painting, have been completed. Moisture content of concrete slabs, building air temperature and relative humidity must be within limits recommended by flooring manufacturer.

Where movable partitions are shown, install resilient flooring before partitions are erected.

Place flooring with adhesive cement in strict compliance with manufacturer's recommendations. Butt tightly to vertical surfaces, thresholds, nosing and edgings. Scribe as necessary around obstructions and to produce neat joints, laid tight, even, and straight. Extend flooring into toe spaces, door reveals, and into closets and similar openings. Install flooring on covers for such items as occur within finished floor areas.

Maintain overall continuity of color and pattern with pieces of flooring installed in these covers. Tightly cement edges to perimeter of floor around covers and to covers.

Tightly cement flooring to subbase without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, or other surface imperfections.

Tile Floors: Lay tile from center marks established with principal walls,

discounting minor offsets, so that tile at opposite edges of the room are of equal width. Adjust as necessary to avoid use of cut widths less than 3" at room perimeters. Lay tile square to room axis, unless otherwise shown.

Match tiles for color and pattern by using tile from cartons in same sequence as manufactured and packaged. Cut tile neatly to and around all fixtures. Broken, cracked, chipped or deformed tile are not acceptable.

Unless otherwise shown on drawings, lay tile with grain in tile running in the same direction.

Accessories: Apply resilient base to walls, columns, pilasters, casework and other permanent fixtures in rooms or areas where base is required. Install base in as long lengths as practicable, with performed units, or fabricated from base material with mitered or coped intersections. Tightly bond base to backing throughout the length of each piece, with continuous contact at horizontal and vertical surfaces.

Place resilient edge strips tightly butted to flooring and secure with adhesive. Install edging strips at all unprotected edges of flooring unless otherwise shown.

Apply butt type metal edge strips where shown on drawings, and prior to resilient flooring. Secure units to substrate with countersunk stainless steel anchors, complying with manufacturer's recommendations.

Cleaning and Protection: Remove any excess adhesive or other surface blemishes, using neutral type cleaners as recommended by flooring manufacturer. Protect installed flooring from damage by covering.

Finishing: After completion of project and just prior to final inspection of work, thoroughly clean floors and accessories. Apply wax and buff, with type of wax, number of coats and buffing procedures in compliance with flooring manufacturer's instructions.

SECTION 09900

PAINTING

PART ONE - RELATED DOCUMENTS

A. The general provisions of the contract, including General and Special Conditions apply to the work specified in this section.

PART TWO - DESCRIPTION OF WORK

B. The extent of painting work is shown on the drawings and schedules, and as herein specified.

This work includes the painting and finishing of all interior and exterior exposed items and surfaces throughout the project, except as herein specified. Surface preparation, priming and coats of paint specified are in addition to shop priming and surface treatment specified under other sections, except as otherwise specified.

The work includes the field painting of all bare and covered pipes (including color coding), and of hangers, exposed steel and iron work, and primed metal surfaces of equipment installed under the mechanical and electrical work, except as otherwise specified.

The "paint" as used herein means all coating systems materials which includes primers, emulsions, enamels, sealers, and fillers, and other applied materials whether used as prime, intermediate or finish coats.

Paint all exposed surfaces whether or not colors are designated in any scheduled, except where the natural finish of the material is obviously intended and specifically noted as a surface not to be painted. Where items or surfaces are not specifically mentioned, paint these same as adjacent similar materials or areas. If color or finish is not designated, the Architect will select these from standard colors available.

PART THREE - PAINTING NOT INCLUDED

The following categories of work are not included as part of the painter-applied finish work, or are included in other sections of these specifications, unless otherwise shown or specified.

A. Shop Priming: Unless otherwise specified, shop priming of ferrous metal items is included under the various sections for structural steel, miscellaneous metal items, hollow metal work, and similar items. Also, for such fabricated components as architectural woodwork, wood casework, and shop fabricated or factory built mechanical and electrical equipment.

B. Pre-Finished Items: Unless otherwise indicated, do not include painting when factory finishing is specified for such items as (but not limited to) metal toilet enclosures, acoustic materials, architectural woodwork and casework, finished mechanical and electrical equipment including light fixtures, switchgear and distribution cabinets, doors and equipment.

C. Concealed Surfaces: Unless otherwise indicated, painting is not required on wall or ceiling surfaces in concealed areas and inaccessible areas such as foundation spaces, furred areas, pipe spaces, duct shafts, as applicable to this project.

Do not paint copper pipe, zinc-coated pipe and zinc-coated ducts under insulation. Do not paint zinc-coated and copper pipe in concealed spaces.

D. Finished Metal Surfaces: Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finish painting, except as otherwise specified.

E. Operating Parts and Labels: Do not paint any moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, sinkages, sensing devices, motor and fan shafts, unless otherwise indicated.

Do not paint over any code-required labels, such as Underwriters Laboratories and Factory Mutual, or any equipment identification, performance rating, name, or nomenclature plates.

PART FOUR - GENERAL

A. Site Conditions: Starting of painting work will be construed as the Applicator's acceptance of the surfaces within any particular area.

Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to the formation of a durable paint film.

B. Atmospheric Conditions: Exterior paint shall not be applied when the temperature of the surface is below 45 degrees Fahrenheit or above 95 degrees Fahrenheit unless otherwise directed. Interior paint may be applied at any time, provided the surfaces to be painted are dry and the temperature can be kept above 45 degrees Fahrenheit during the application of ordinary paints, and between 65 degrees Fahrenheit and 95 degrees Fahrenheit during the application of enamels and varnishes. Paint shall not be applied during foggy or rainy weather or when, in the opinion the surfaces are not in proper condition for painting.

C. Delivery and Storage: Deliver all materials to the job site in original, new and unopened packages and containers bearing manufacturer's name and label, and application instructions thereon.

D. Protection: Protect work of other trades, whether to be painted or not, against damage by the painting and finishing work. Leave all such work undamaged. Correct any damages by cleaning, repairing or replacing, and repainting, as directed.

E. Clean Up: During the progress of the work, remove from the project all discarded paint materials, rubbish, cans and rags.

Upon completion of painting work, clean all paint spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.

F. Colors: Prior to beginning work.

PART FIVE - MATERIALS

In the following scheduled, the products of the Glidden Company are included as a reference to indicate the type and quality of the finishes required, first line paints of Pittsburgh Place Glass, Mobile Paint Co., Dupont Sharwin-Williams or other approved equal may be used.

Exterior Concrete and Masonry paint-Spread House Paint

Water repellent-Silicone Driwal

Interior concrete and masonry paint-Spread Satin

Interior semi-gloss enamel-Spread Lustra

Wood stain-Glid-Tone Wood Stain

Wood filler-Glid-Tone Wood Filler No. 700

Semi-gloss varnish-Glid Tone Stain-Sheen

Primer for galvanized metal surfaces-Rustmaster galvanized Iron primer No. 5229

Primer for aluminum and ferrous metal surfaces-Speedenamel Metal Primer No. 4570

Gloss enamel for metal surfaces-Speedenamel

Polyurethane paint-Polyurethane Florenamel

Linseed oil, turpentine, putty, etc.-best quality obtainable

PART SIX - MATERIAL TESTING

The right is reserved to owner to engage the services of a testing laboratory to perform all the necessary tests to verify that the paint submitted for approval by the Contractor complies with the requirements of this specifications.

PART SEVEN - SURFACE PREPARATION

A. General: Perform all preparation and cleaning procedures in strict accordance with the paint manufacturer's instructions and as herein specified.

Remove all hardware, hardware accessories, machined surfaces, plated, lighting fixtures, and similar items in place and not to be finish painted, or provide surface-applied protection prior to surface preparation and painting operations. Remove, if necessary, for the complete painting of the items and adjacent surfaces. Following completion of painting of each space of area, reinstall the remove items by workmen skilled in the trades involved.

Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease with clean cloths and cleaning solvents prior to mechanical cleaning. Provide cleaning solvents of low toxicity and a flash point in excess of 100°F. Program the cleaning and painting so that dust and other contaminants from the cleaning process will not fall in wet, newly painted surfaces.

B. Cementitious Materials: Prepare cementitious surfaces of concrete, concrete block, cement plaster and cement-asbestos board to be painted by removing all efflorescence, chalk, dust, dirt, grease, oils, and by roughening as required to remove glaze.

Determine the alkalinity and moisture content of the surfaces to be painted by performing appropriate tests. If the surfaces are found to be sufficiently alkaline to cause blistering and burning of the finish paint, correct this condition by sponging the affected surfaces with a zinc sulphate solution of 2 lbs. zinc sulphate per gal. of water, or other acceptable where the moisture content exceeds 8%, unless otherwise permitted in the manufacturer's printed directions.

C. Wood: Clean wood surfaces to be painted of all dirt, oil, or other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sandpaper smooth those finished surfaces exposed to view, and dust off.

Prime, stain, or seal wood required to be job painted immediately upon delivery to job. Prime edges, ends, face, undersides, and backsides of such wood, including cabinets, counters, cases, paneling, etc. Seal tops and bottoms of wood doors with a heavy coat of varnish or equivalent sealer immediately upon delivery to job.

Scrape and clean small, dry, seasoned knots and apply a thin coat of white

shellac or other approved sealer, before application of the priming coat.

After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand paper smooth when dried.

D. Ferrous Metals: Clean non-galvanized, ferrous surfaces that have not been shop-coated of all oil, grease, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning, complying with SSPC recommendations.

Touch-Up all shop-applied prime coats which have damaged, or bare areas, where required by other sections of these specifications. Wirebrush, solvent clean, and touch up with the same primer as the shop coat.

PART EIGHT - MATERIALS PREPARATION

A. Mix and prepare painting materials in strict accordance with the manufacturer's directions.

Store materials not in actual use in tightly covered containers. Maintain containers used in storage, mixing, and application of paint in a clean condition, free of foreign materials and residue.

Stir all materials before application to produce a mixture of uniform density, and as required during the application of the materials. Do not stir any film which may form on the surfaces of materials into the material. Remove the film and, if necessary, strain the material before using.

PART NINE - APPLICATION

A. Apply paint by brush, roller or spray in accordance with the manufacturer's directions. Spray paint uniformly with suitable equipment.

The number of coats and paint film thickness required is the same regardless of the application method. Do not apply succeeding coats until the previous coat has completely dried.

Apply additional coats when undercoats, stains, or other conditions show through the final coat of paint, until the paint film is of uniform finish, color and appearance.

"Exposed surfaces" shall mean areas visible when permanent of built in fixtures, grilles, etc. in place in areas scheduled to be painted.

Paint the back sides of access panels, removable or hinged covers to match the exposed surfaces.

Finish exterior doors on tops, bottoms, and side edges the same as the

exterior faces, unless otherwise indicated.

Send lightly between each succeeding enamel or varnish coat.

B. Prime Coats: Before application of finish coats, apply a prime coat to material which is required to be painted or finished, and which has not been prime coated by others.

Recoat primed and sealed walls and ceilings where there is evidence of suction spots or unsealed areas in first coat, to assure a finish coat with no burn through or other defects due to insufficient sealing.

C. Mechanical Applications: Apply each roller coat to provide the equivalent hiding as brush-applied coats.

Use spray application (generally) on wire mesh and similar surfaces where hand brush work would be inferior.

Wherever spray application is used, apply each coat to provide the equivalent hiding of brush-applied coats. Do not double back with spray equipment for the purpose of building up film thickness of 2 coats in one pass.

D. Completed Work: Match approved samples for color, texture and coverage. Remove, refinish, or repaint work not in compliance with specified requirements.

E. Dry Mill Thickness: Contractor shall comply with the recommended dry mill thickness for each coat of each type of paint according to manufacturer's recommendations. All coats shall be dry before applying the second coat.

Applications shall be double check by Architect or Supervisor and Manufacturer Representative.

PART TEN - SUBMITTALS

A. Manufacturer's Data: Submit 2 copies of manufacturer's specifications, including paint label analysis and application instructions for each material specified.

List each material and cross reference to the specific paint and finish system and application. Identify by manufacturer's catalog number and general classification. No printing work shall be done until this schedule has been finally approved.

B. Samples: On 12" x 12" hardboard, provide 2 samples of each color and material, with texture to simulate actual conditions. Resubmit each sample as requested until required shenn, color, and texture is achieved.

On actual wood surfaces, provide 2,4" x 8" samples of each finish as required. Label and identify each as to location and application.

PART ELEVEN - SURFACES TO BE PAINTED

The exact locations and limits of the surfaces requiring the various type of finishes shall be as established in the color scheduled. The paint required for the various types of surfaces shall be as follows:

- a. Exterior concrete, masonry or plastered surfaces, except as otherwise noted.

Two (2) coats exterior concrete and masonry paint.

- b. Exterior exposed concrete surfaces, except as otherwise noted.

Two (2) coats of water repellent finish.

- c. Interior concrete, masonry or plastered surfaces, except where indicated to receive an enamel finish.

Two (2) coats interior concrete and masonry paint.

- d. Interior concrete, masonry or plastered surfaces, indicated to received enamel finish.

First coat - enamel undercoater as recommended by manufacturer.

Second and third coats - Semi-gloss enamel.

- e. Interior woodwork (enamel finish).

First coat - enamel undercoater as recommended by the manufacturer.

Second and third coats - Semi-gloss enamel.

- f. Interior woodwork (natural finish).

First coat - Stain if required.

Second coat - Filler tinted to match stain if required by species of wood.

Third and fourth coats - Semi-gloss varnish.

Miscellaneous metal items which are specified under other sections to receive finishes as specified under this section or for which finishes are not specified under other sections.

DIVISION 15 MECHANICAL

SECTION 15400

PLUMBING SPECIFICATIONS

PART ONE - GENERAL CONDITIONS

1.01 The Contractor shall carefully read the General Conditions, which, with the following Specifications for "Plumbing" are a part of the contract.

1.02 INTENT

A. It is the intention of the Specifications and Drawings to all for finished work, tested, and ready for operation.

B. Any apparatus, appliance, material or work not shown, indicated or called for in the Drawings but mentioned in the Specifications, or vice versa, or any incidental accessories necessary to make the work complete, perfect and safe in all respects, and ready for operation, even if not particularly specified or called of in the drawings, shall be furnished, delivered, and installed by the Contractor without additional expense to the Owner, unless explicitly labeled "not in contract" or "NIC" in the drawings and/or the Specifications.

C. Minor details not usually shown in the drawings or specified, but necessary for the proper operation and installation, shall be included in the work and in the Contractor's estimate, the same as if herein specified or shown in the drawings.

D. With submission of the bid, the Contractor shall give written notice to the Architect of any materials or apparatus believed inadequate or unsuitable in violation of laws, ordinances, rules or regulations of authorities having jurisdiction, and of any necessary items of work omitted. In the absence of written notice it is mutually agreed that the Contractor has included the cost of all required items in the proposal, and that he will be responsible for the approved satisfactory functioning of the entire system without extra compensation.

E. All equipment and accessories shall be located and installed in such a way as to permit easy access for proper service and maintenance routings.

F. Any changes in location, size, or quantity of materials and equipment to be furnished and installed under this Section, that may be found necessary or convenient in order to adjust to field conditions shall be brought to the attention of the Architect for his approval prior to the proceeding with any such changes.

G. The Contractor shall pay royalties and license fees required by law for equipment and work to be furnished and/or installed under this section and shall defend all suits or claims for infringement of all patent rights saving the Owner harmless from any loss on account therefore.

1.03 WORK INCLUDED

A. The work included under this Section of the Specifications shall cover the furnishing of all labor, equipment, scaffolding, tools, fixtures and materials; and performing all operations in connection with installing and placing in operation the plumbing system as shown in the drawings and/or hereinafter specified. Without restricting the generality of the foregoing, the work shall include:

1. All plumbing work inside and outside the building, as shown, including all plumbing fixtures scheduled, roughing-in and connecting-up of all items of equipment specified under other Section; and roughing-in for all equipment shown on the drawings and listed as "Not in Contract", or "N.I.C."
2. Potable water supply system, including pumping system connection to istern.
3. Complete soil waste, drain and vent system as shown on drawings.
4. Fire standpipe system, including fire hose cabinets, siamese connections, and fire line specialities and appurtenances.
5. Complete storm drainage system, as shown.
6. All excavating, tamping, backfilling, shoring and pumping inside and outside of the building, required for the construction and finishing of the trenches necessary to install the pipes and conduits shown on the drawings and/or specified herein.

1.04 DRAWINGS AND SPECIFICATIONS

A. Diagrammatic, not necessarily showing in detail or to scale the minor items.

B. Drawings:

1. The drawing are generally diagrammatic and are intended to convoy the scope of the work and indicate general arrangement of equipment, ducts, conduits, piping, fixtures and accesories.
2. The location of all items shown on the drawings or called for in the specifications that are not definitely fixed by dimensions, are approximate only. The exact locations necessary to secure the best conditions are results must be determined at the project and shall have the approval of the Architect before being installed.
3. If directed by the Architect, the Contractor shall, without extra charge,

make reasonable modifications in the layout as needed to prevent conflict with work of other trades or for proper execution of the work.

4. All work must be laid out in the field prior to installation or shop fabrication. Scale measurements from drawings shall not be allowed.

5. No work under this Section shall be performed prior to a thorough study of all electrical, architectural and structural drawings, to determine any possible conflict prior to proceeding with laying out of work in the field. Contractor is to be fully familiarized with all building drawings and accompanying specifications and his complete understanding of the said drawing and specifications shall be taken for granted unless clarifications are requested in writing prior to undertaking any shop fabrication or construction work.

C. Discrepancies: In the events of errors in, or omissions from the drawings and specifications and or discrepancies between plans and specifications or between either of these and any state, municipal or other ordinance, the bidder shall notify the Architect in ample time to permit revisions before the bids are submitted. In case of discrepancies between Drawings and Specifications that may have gone unnoticed after work is in progress, specifications shall govern.

D. Laws and Ordinances: All state and municipal ordinances, laws, regulation and codes, and National Fire Protection Association recommendations relating to any and all parts of work, equipment and materials to be furnished under this Section are hereby incorporated and made an indivisible part of these specifications. The Contractor shall notify to the Architect of any work, equipments or materials herein specified which in his opinion may violate any of the above mentioned dispositions. Any work done under this section which causes any such violations shall be corrected under this Section without additional cost to the Owner.

Compliance with above-mentioned laws, ordinances, codes and regulations does not relieve the Contractor from compliance with the requirements of these Specifications and any Contract Documents which may exceed requirements of such regulations without contrary to them.

1.07 EXECUTION OF WORK

A. General: All work performed under this Contract shall be accomplished by experienced personnel in accordance with the recommended practices of the USASI Code for pressure piping, and those of the manufacturers of the equipment and materials installed under this Section. There shall be strict adherence to the code requirements of the National Fire Protection Association. The Commonwealth of Puerto Rico Government, and other governing bodies having jurisdiction. The Contractor shall arrange for orderly progress of the work performed by his sub-contractors. All work shall be done in a neat and workmanlike manner and the premises shall be left clean and free of debris.

B. Equipment and Materials: All equipment and materials used in this installation shall be new, of the best quality, and shall be standard catalog products of the various manufacturers.

C. Specified Equipment: Should the Contractor fail to make sub-missions as hereinafter required, then the Contractor shall furnish equipment and materials as directed by the Architect.

D. Shop Drawings, Submission Data and Erection Drawings:

1. Shop drawings and data on the equipment, as herein listed or as requested by the Architect, shall be submitted for approval, and shall consist of manufacturer's scale drawings, diagrams, catalogs, cuts, descriptive literature, test data, component parts, performance data and all other information related thereto and necessary for a complete evaluation of the equipment.

2. Shop drawing and equipment data shall be submitted in the number of copies requested by the Architect in an orderly, well organized form that will permit easy and accurate checking. In the case of items consisting of several components assembled together under the responsibility of one manufacturer, a brochure containing data on all components shall be submitted. Sales literature is not to be considered as shop drawings.

3. No equipment shall be put into manufacture until shop drawings and/or brochure have been approved by the Architect.

4. Manufacturer's data and shop drawings are required to be submitted for the following:

- a. Plumbing fixtures and trim
- b. Pipe guides, anchors, supports and hangers
- c. All valves
- d. Roof and floor drains
- e. Firehose Cabinets and related equipment
- f. Plumbing system and related equipment
- g. Manufacturer's certificate of compliance with Specifications for pipes and/or tubing for all systems.

5. Manufacturer's that, after repetitive request, fail to submit shop drawings in a manner acceptable to the Architect shall have their equipment rejected and the Contractor advised to obtain another source of supply.

6. Erection Drawings: Wherever there is to be departure from the contract drawings, the Contractor shall furnish scale drawings of equipment and

pipng, in plan and elevation, showing clearances and relation of equipment and piping to the space assigned. Drawings showing details of hoop of piping system shall be furnished by the Contractor.

1.07 EXECUTION OF WORK

E. Work to be performed under this Section, and pay all fees therefor. Arrange for inspection and test of any equipment and/or work under this Section if no required by local or state authorities, or local service companies having jurisdiction, and pay all charges and fees for same. Pay all costs for, and furnish to the Architect all certificates necessary to ascertain that all work conforms with all applicable regulations.

1.08 GUARANTEE

A. The Contractor guarantees by his acceptance of Contract, that all his work shall be free from any and all defects and that all apparatus shall develop capacities and exhibit characteristics as specified.

B. Whenever within one (1) year of final acceptance of Contract, that all his work shall be free from any and all defects and that all apparatus shall develop capacities and exhibit characteristics as specified.

C. The Contractor shall replace or repair to the satisfaction of the Architect any and all damage done to the buildings or their contents in consequence of work performed in fulfilling guarantee.

D. This article is general in nature and will not operate to waive stipulations of other claims which specify guarantee in excess of one (1) year.

1.09 PROTECTION OF WORK AND PROPERTY

A. The Contractor shall be responsible for the maintenance and protection of all equipment, materials, and tools, supplied by him stored or installed on the job site, from loss or damage of all causes, until final acceptance by the Architect.

B. The Contractor shall be responsible for the protection of any finished work from damage or defacement by his operation and must remedy any such injury at his own expenses.

2.00 TEMPORARY OPENINGS

A. The Contractor shall ascertain, from his examination of the architectural drawings, whether any special temporary openings in the buildings will be required for the admission of apparatus furnished under his Contract, and shall notify the Architect accordingly. In the event of failure of the Contractor to give sufficient notice to the Architect in time to arrange for these openings during construction, the Contractor shall assume all

coats of providing such openings thereafter.

2.01 ACCESSIBILITY

A. All work shall be installed so that all parts required are readily accessible for inspection, operation, maintenance and repair. Minor deviations from the drawings may be made to accomplish this, but changes of magnitude shall not be made without prior written approval from the Architect.

2.02 TAGS AND CHARTS

A. Attach to each valve a 1-4" diameter brass tag with 1/2" indented numerals filled with durable black compound.

B. Attach tags securely to stems of valves with cooper wire and S hooks.

C. Provide three (3) sets of charts; showing outline plan of the building and the essential features of the systems herein specified, including all piping, equipment, valves and control. Label all valves and pieces of equipment in said chart. Valve label in is to coincide with numbers shown in the valve tags.

D. Fixture flush valves are excluded from either lagging or labeling.

E. Mount one set of the valve charts under glass in a metal frame.

F. Turn all three sets in to the Architect.

2.03 SLEEVES

A. All pipes and conduits passing through floors, walls beams or partitions shall be provided with sleeves having an internal diameter 1" larger than the outside diameter of the pipe and its insulation, or conduit.

B. Sleeves through outside walls shall be PVC. Sleeves shall be set with ends flush with each face of wall. The space between sleeve and pipe shall be packed with oakum to within 2" each face of the wall. The remaining space shall be packed and made watertight with a waterproof compound.

C. Sleeves through concrete slabs, beams or interior masonry walls when indicated on drawings shall be PVC pipe, set flush with finished wall, beam or ceiling surface, but extending 2" above concrete roof slab.

D. Sleeves through interior partitions shall be 22 gauge galvanized sheet metal, set flush with finished surface or partitions.

E. Sleeves for vent line penetrations through roof shall be as specifically called

for in the drawings.

2.04 INTERRUPTION OF EXISTING SERVICES

A. Whenever the work to be performed under this section makes mandatory the interruption of existing services, work shall be performed at such a time as to cause the least conflict with construction and installation work going on at that job site at the time. Need for interrupting said services shall be notified to the General Construction Supervisor for adequate arrangement of construction Supervisor so that services will be interrupted only during the time actually required to make connections to existing services. No interruptions of services shall be permitted without advance, written approval of the Architect.

2.05 CLEANING PIPING AND EQUIPMENT

A. Piping and equipment shall be thoroughly cleaned of all foreign substances inside and out before being placed in operation. If any part of a system should be stopped by any foreign matter after being placed in the system shall be disconnected, cleaned and reconnected wherever necessary to locate and remove obstructions. Any work damaged in the course of removing obstructions shall be repaired or replaced when the system is reconnected at no additional cost to the Owner.

2.06 CLEANING UP

A. Keep the job free from accumulations of waste material or rubbish, caused by operations. At the completion of the work, remove all rubbish, tools, construction equipment and surplus materials from the job site and leave the premises in a clean condition.

2.07 UNDERGROUND PIPING

A. Excavation and Backfilling: Do all necessary excavation and backfilling required by work included under this Section. Protect excavations at all times. Maintain trench banks as nearly vertical as possible. Remove excess earth and do all necessary sheet piling, shoring, bailing, and pumping, as directed by the Architect. Keep excavations dry.

Width of vertically walled trenches must not exceed 8 inches on either side of conduit or pipe at bottom, and be no wider than necessary above for sheeting and bracing and for proper performance of work.

Run conduit and piping at necessary distance from building footings to provide slope not steeper than 1:2 (vertical:horizontal) between base of excavation and bottom of footing. Avoid any interference with electric and other pipe lines in a manner satisfactory to the Architect.

After underground lines have been inspected and tested, surround the pipe or conduit with 6 inches of sand and backfill, the remaining excavation in layers not more than 6 inches thick with suitable earth backfill for unpaved areas and with pit run gravel in paved areas. Machine tamp each layer of backfill thoroughly to compaction of 95% standard proctor up to sub-grade in paved areas and up to finished grade in elsewhere. Wherever unstable soil is encountered in the bottom of the trench, remove such soil to depth required and replace with clean bank run sand and gravel. Fill must be clean and free of slag, cinders, ash, wood, or debris. Wherever cinders are encountered, remove and replace with fill of limestone screenings.

All excavation, backfilling and underground conduit and pipe installation must be thoroughly coordinated with similar work performed under other Section of the Specifications to avoid interferences and delays in the work.

B. Pipe and Conduit laying and Bedding: Thoroughly inspect and fit pipes and conduits before lowering into trench. Lay lines to uniform grade between elevations shown or at pitch specified or shown using an appropriate method to establish and check grades and slopes.

Secure authorization from the Architect before installing any work on ground providing questionable support. Provide bed satisfactory to the Architect for barrel of pipe. Pipe must not rest on blocking when brought to grade. Set each length to grade and line before making joint.

Keep water out of all pipes until joints have been made. Close all open ends of conduit and piping during construction. Clean interior of all joints before joints are made.

Where pipes pass under and within 8 inches of footings or grade beams, provide steel pipe sleeves for pipe, with at least 2 inches clearance around pipe, and embed sleeve in concrete extending at least 6 inches on all sides of sleeves and up to footing or grade beams.

2.08 PIPING SYSTEM

A. General: Furnish and install all piping systems indicated on drawing as hereinafter specified. All pipe, fittings and valves shall be U.S. manufacture.

1. Arrangement: Install and arrange piping approximately as indicated, straight, level, plumb, and as direct as possible; for right angles and parallel lines with structure, however, pipes shall be slope as necessary for proper functioning of the system.

2. Location: Keep pipes close to walls, slabs, partitions and ceilings where possible.

3. Parallel Pipes: Where several pipes are run together they shall run parallel

and shall be spaced at distances, which will permit access for servicing, unless provisions for pitching the pipes dictate different elevations.

4. Grading: Interior horizontal pipes shall be installed to allow a maximum headroom. Maintain minimum 1/4" fall per foot in all soil, waste and rain leader lines, except where noted otherwise.

5. Accessibility: Pipes will be installed so as to leave them readily accessible for repairs and maintenance.

6. Installation Practices: Shall be in accordance with the best standards of the trade. All piping shall be reamed after cutting to remove burrs and rough edges. All piping shall be cleaned free of cuttings and oil prior to installation. All pipe lines shall be capped during construction to avoid the entry of foreign materials into the piping.

7. Installation of the piping system shall be such as to allow thermal expansion and contraction while preventing undue stress and strains on the system and connected equipment. Contractor shall take proper care that lines will be installed so as to allow proper drainage, avoid trapping of air, and allow for normal expansion movements. Contractor shall be held responsible and liable to correct any defects in installation or proper performance of the piping system under Contract.

8. Manual Air Vents shall be furnished and installed in high points as well as other locations where venting of trapped air may be necessary, as required.

9. Connection to plumbing fixtures, shall in general be carried concealed to point above floor near fixtures where they shall breakout and rise to fixtures all as required or approved. All roughing in installed underground or concealed in floor or wall construction shall be tested, and approved as tested by the Owner's Representative before any of the work is covered. Should any work be covered before being tested and approved, it shall be uncovered, tested and re-covered at the expense of the Contractor.

10. Cleanouts shall be installed where shown on drawings: where required by the local Building Codes; no more than 50 feet centers in horizontal drainage piping 4 inches and smaller and no more than 100 feet centers for pipe larger than 4 inches; at each change of direction greater than 45 degree for all drainage piping; at or near the foot of each vertical waste or soil stack or storm leader. Cleanout on concealed piping shall be extended through and terminated installed in underground piping shall be extended to or above finish grade level directly above the location of the cleanout or extended to the outside of the building when found necessary.

11. All vent pipes shall be graded so as to free themselves of any water or condensation.

12. Where space permits, all cold and hot water piping shall be installed with a minimum clearance between them of 6 inches.

13. Dissimilar metals:

- a. Wherever possible, connections between equipment, piping and hangers of dissimilar metals shall be avoided.
- b. Wherever such a connection or contact between dissimilar metals is to occur, insulate the two different materials using a best quality dielectric insulating material.
- c. Flanged connections shall be provided with all necessary gaskets, sleeves and washers of insulating material to assure complete isolation of any two different metal.
- d. Where copper or brass pipe or fittings are to connect to steel or iron piping, provide insulating flanges, bushings, couplings or unions to preclude contact between the different metals.

B. Fittings:

1. Unions: Shall be installed where indicated on the drawings and as necessary to permit convenient disassembly of piping for alteration and repairs; in connections to all equipment between shutoff valves and the proper equipment.

2. Pipe Reducers: Reductions in pipe size shall be made with eccentric or concentric pipe reducers as may be necessary depending upon the function of the pipe.

C. Valves

1. Locations: Valves shall be located and installed as follows:

- a. Valves shall be located for easy access and operation.
- b. Stemmed valves shall not be installed with valve stems below the horizontal.

D. Domestic Potable Water and Sanitary Piping Construction Details:

1. Drainage Systems

- a. Branch connections in horizontal plane shall be made with long "Tee-Wye" fittings are to be used in vertical pipe only. All fitting shall conform to Code requirements.
- b. Connections to roof drains shall be installed in conjunction with the roofing called for under another Section of the Specifications and at such times as designated by the Owner's Representative, so that the building is adequately protected during construction from damage by storm water. All piping shall be adequately and properly supported in the manner herein specified, and all joints in piping shall be made up as called for under that heading.
- c. All traps shall be set as close to the fixtures as possible and in no event shall this distance exceed 2'0". All fixture traps shall have full size tapered extra-heavy screwed cleanout plug below their water line. All traps shall be set level with regard to their water line.

2. Drainage-Vents

- a. Furnish and install complete system of ventilating pipes from the various plumbing fixtures and other equipment to which drainage connections are made. Ventilating pipes shall be connected at a suitable point after the discharged to each trap in such a fashion so as not to crown vent the trap or convert it into as "S" trap, and shall be carried individually to a point above the ultimate overflow level of the fixture before connecting with any other vent pipe; in general, this will be approximately 3'6" above the finished floor. Branches shall be arranged to pitch back to fixture is not individually vented, every waste pipe and trap shall be two pipes larger than the size required in Part 1100.2 of the revised National Plumbing Code.
- b. The top of all vent stacks shall run straight up, undimished in size, thru the roof slab, extending to heights as indicated on drawings.

3. Domestic Potable Water Piping System

- a. Pipes shall be adequately supported as called for under "hangers".
- b. All cold water risers shall be supported with floor clamps at floor level.
- c. All piping, fittings, escutcheons, valves, supports, hangers, etc. exposed to view shall be chrome plated.
- d. Friction pipe wrenches and vises shall be used on all copper tubing and brass piping. Any piping showing tool marks will be ordered to

be removed and replaced with new material, without additional cost to the Owner.

- e. All piping shall run to pitch to low points. All low points and pockets or changes in elevation required by structural or other interferences shall be provided with drain valves.
- f. Branches to individual fixtures shall be of sizes as shown on the fixture schedule in drawings.
- g. Water hammer arrestors shall be furnished and installed where on drawings.

E. Fire Protection System

1. All piping shall conform to NPPA No. 14 "Standard for the Installation of Standpipe and Hose System" and NPPA No. 23 "Standard for Fire Department Connections for Sprinkler and Standpipe System", and all parts in this Specifications for "Fire Protection System".

F. Sterilization of the Water Supply System

1. The entire water supply system including new water mains outside the building shall thoroughly sterilized with a solution containing no less than 50 parts per million of available chlorine. The chlorinating material shall be calcium hypochlorite or chlorinated lime conforming to Federal specifications O-C-114, and shall be introduced into the system in a manner approved by the Owner's Representative. The sterilizing solution shall be allowed to remain in the system for a period of 8 hours, during which time all valves and faucets shall be opened and closed several times. After sterilization, the solution shall be flushed from the system with clean water until the residual chlorine content is not greater than 0.2 part per million, unless otherwise directed.

2.09 PIPING MATERIALS

Materials for the various piping system shall be as called for in the drawings.

2.10 VALVES AND SELECTED SPECIALTIES

A. Valves and specialties shall be furnished as follows, except otherwise indicated or specified. All valves shall be new and each valve shall be clearly stamped or otherwise marked with the valve is designed. All valves shall be new and each valve shall be clearly stamped or otherwise marked with the manufacturer's name and working pressure for which the valve is designed. All valves shall be Crane, Jenkins, Powell, Walmorth, Lukenheimer or Muller, or approved equal. Working pressure shall be not less

than 125 lbs. steam, unless otherwise noted. Brass shall not be acceptable in lieu of bronze, as per ASTM Standards.

1. Gate Valves

- a. Aboveground: Except where noted otherwise, valves 2 1/2" and smaller shall be bronze, double faced, solid wedge disc., tapered seat, rising stem, equal to Crane Co., No. 428, 2 1/2" and larger shall flanged connections, Crane Co. No. 461, or approved Equal.
- b. Underground: Shall be as per List 15, AWWA, and conforming to Federal Specification WW-W-58, Type II, Class A Valves. Manufacturer: James B. Clow and Sons, Inc. Catalog Nos. F-5226 or F-5225, or approved equal.

2. Roof Drains: Shall be as shown in the drawings, or approved equal.

3. Floor Drains: Shall be as shown in the drawings, or approved equal.

2.11 PIPING SUPPORT AND HANGERS

A. General: Provided auxiliary structural steel members or brackets securely attached to building framing where building structural members are not available for supports of pipes and equipment, and to provide adequate bracing and hanger support. Floor supports shall be provided as shown on the drawings or directed by the Architect. Proposed details on auxiliary supporting members shall be submitted to the Architect for his approval prior to erection.

B. Piping shall be supported, guided and anchored to prevent creeping, sagging, bucking, vibration or misalignment.

C. Pipes shall not be hung from other piping or from equipment of other trades and hanger rods shall not pierce ducts or duct insulation.

D. Wire, chain, band iron, tape or wood hangers shall not be used to support piping.

E. Pipe supports shall be capable of vertical adjustment after installation of piping.

F. Piping at all equipment shall be supported to prevent strains or distortions in the connected equipment. Piping shall be supported to allow for removal of equipment, valves and accessories with a minimum of dismantling and without requiring additional supports after these items are removed.

G. All pipes shall be supported at all changes in direction, and at every joint of

an horizontal run. Maximum pipe spans shall be as per the following tables:

Nominal Pipe size, inches	1	1-1/2	2	2-1/2	3	4	6	8	10
Maximum span feet	7	9	10	11	12	14	17	19	22

It is emphasized that the above table is for maximum spans, and that in case of discrepancy, the first sentence of this paragraph governs. In case of pipes of different size resting on, or hanging from pipe support structures, such as steel brackets, spacing shall be for the condition producing the smallest spacing.

H. All pipes shall be hung independently, hanger rods shall be attached to the concrete structure with steel expansion shields or other approved means.

I. Piping suspended from ceiling slabs, shall be supported with clevis hangers and rods, Grinnell Fig. 260, Instruct, Type "J", "T" hangers, or approved equal.

J. Minimum hanger rod size shall be 3/8", for pipes up to and including 4" dia., for larger pipes use 1/2" rod.

2.12 PIPING SUPPORTS AND HANGERS

K. Piping at walls shall be supported on hook plates, offset clamps or wall brackets.

L. Vertical pipes shall be supported at the bottom on base elbows or floor stands fastened to concrete piers and at floors by riser clamps.

2.13 CLEANOUTS

A. Cleanouts shall be same in size as pipe, except that cleanout larger than 4" will not be required except otherwise indicated in drawings. All cleanouts plugs shall be extended to slightly within finished wall surfaces or slightly below floor surfaces for installation with access cover when required on drawings.

2.14 ACCESS PANELS

A. Access doors and covers shall be furnished and installed in finished walls, ceiling, partitions, etc., to provide access to all valves, controls, shock absorbers, cleanouts, and any other equipment which will require maintenance servicing that is concealed behind finishes construction.

2.15 WATER PRESSURE BOOSTER SYSTEM

THIS SECTION DELETE

2.16 PLUMBING FIXTURES

A. General: All fixtures shall be free from imperfections, true as to line, angle, curves and color, smooth, watertight, and complete in every respect. Fixture shall be furnished, set and connected in a good substantial, neat and workmanlike manner. All vitreous ware fixtures shall be white of a non absorbent vitreous china, and burned so that the whole mass is thoroughly fused and united to the body, without discoloration, chips or flaws, and free from craze.

All fixtures shown on drawings shall be set, connected, and tested by Contractor. He shall also make all water, waste, vent, soil and other service connections to fixtures as shown on drawings or as directed and shall set, furnish, connect and test all necessary piping, connected thereto.

All pipes at fixtures passing into walls, floors, or partitions shall be provided with heavy cast brass escutcheons and set screws finished to match the pipe.

All fixtures shall be protected after installation and shall be left thoroughly clean before the final inspection.

All exposed fittings, escutcheons, faucets, traps, piping, etc. shall be brass, chrome-plated over nickel plate with polished finish. Any hanger nuts visible shall likewise be chrome-plated over nickel plate.

Before roughing work is started, the Contractor shall submit to the Architect complete figures, drawings and cuts of each of the plumbing fixtures, fittings, trimmings, etc., and secure his approval before proceeding with the installation of any work. Roughing-in of water, waste and soil piping shall be done in accordance with the roughing-in measurements of fixtures submitted by manufacturer in advance.

This Contractor shall furnish and set all hangers, supports and brackets, for the proper installation of all Plumbing Fixtures requiring support. Such supports shall be in accordance with the recommendations of the manufactures of the fixtures, and if build into partitions or walls shall be set as the wall progresses. This Contractor will be held responsible for the stability of all fixtures, furnishing and installing all chair carriers, or other materials necessary to accomplish this. Provide all fixtures that are supported by concealed or exposed arms with lock washers or start washer on the bolts that fasten the fixtures to the arms.

All fixtures of each type, as designated by a common symbol (such as P-1 for example) shall be identical throughout the project; items of trim and fittings of each type shall also be identical throughout the project.

All fixtures and connections thereto shall comply with the Rules Relative to Submerged Inlets and any provisions of the revised National Plumbings Code to prevent contamination of water supply. Connections of floor flanges with fixtures having floor outlets shall be fitted with a composition filler to be water-tight, fume and gas proof, germicidal, stain proof, which shall not harden under any climatic conditions.

2.17 PAINTING

A. Outdoor Metallic Surfaces

All equipment, hangers, support steel, and other metallic surfaces (except aluminum and galvanized) shall be thoroughly wire brushed or otherwise thoroughly cleaned and given two coats of Rust-Oleum 1069 Heavy Duty Rust Inhibitive Red Primer or approved equal, color as directed by the Architect.

B. Interior Metallic Surfaces

All equipment, hangers, support steel, and other metallic surface (except aluminum and galvanized) shall be thoroughly brushed or otherwise thoroughly cleaned and given one coat of Rust-Oleum 769 Damp Proof Red Primer or approved equal, color as directed by the Architect. The Engineer may waive this painting opinion said metallic surface has been painted at the opinion said metallic surface has been painted at the factory in a manner similar to the herein described one and said paint has not been damaged up to the time of turn in the equipment over to the Owner.

C. Fire Protection Piping

All fire protection piping shall be given a coat of Rust-Oleum No. 769 Damp Proof Red Primer or approved equal and one finish coat of bright Red Rust-Oleum Top Coat, or approved equal.

2.18 TEST

A. General: All tests shall be performed in the presence of the Architect of the Owner's Representative. Give written notice in ample time to all concerned of date when tests are to be conducted.

Concealed or insulated work shall remain uncovered until required test have been complete to satisfaction, but if construction scheduled require it, arrange for prior tests on parts of system as approved.

B. Cost: Furnish labor, materials, instruments and bear all other costs involved. Owner shall furnish electrical energy and water.

Installed instruments may be used for test, if calibrated and approved for the purpose.

C. Water-Supply System Test: After completing entire water supply system, and before connecting fixtures, test at lowest levels where directed, to a hydrostatic pressure of 125 psig. Maintain this pressure for at least 1/2 hour. Conduct test of system section in a manner as approved, so that no pipe or joint will be left untested.

D. Drainage System Tests

1. Building sewers: Plug ends at points of connection with public sewers; fill building sewers with water and test to at least 10 feet head.

2. Roughing or water test: Applied to entire drainage system when soil, waste, leader drains, stacks, branches have been installed and system is complete, except for connections to fixtures and connection of building drains to sewer. Proceed as follows:

Close all openings except highest at roof, fill with water to point of overflow.

Allow water to stand for at least two (2) hours before starting inspection. If leaks appear, make tight, repeat test until all joints are tight and approved.

E. Adjustments, Repairs, Retests

1. Make adjustments, repairs, alterations as required to meet specified test results.

2. Correct defects disclosed by test or inspection: Replace defective parts when directed.

3. In replacing defective parts, use only new materials; in case of pipe, replace with same length at defective piece.

4. Caulking of screwed joints or peening of weld will not be permitted.

5. Repeat tests after defect have been corrected and parts replaced as directed, until pronounced satisfactory.

6. Test and adjust pressure valves to specified reduced pressure.

7. Test and set relief valves to specified relief pressure.

8. Test and adjust gauges, thermometers, meters, other instruments, after installation, to assure operation.

9. Test and adjust alarms for satisfactory operating conditions.

F. Operating Test

1. After plumbing work have been completed, tested and approved, test pumps and other mechanical equipment under normal operating conditions for at least two eight-hour days to check, their speeds, capacities, power consumption, and other details as required, to demonstrate that they fulfill requirements of plans and specifications, and that they operate satisfactorily.

2. Where evidence of stoppage appears in piping or equipment, disconnect, clean, repair, reconnect obstructed parts; also bear costs of cutting, patching adjoining work necessitated by such cleaning and repairing.

2.19 INSTRUCTION MANUAL

A. Within 30 days after start of project, four (4) copies of a complete instruction manual, bound in booklet form and suitably indexed, shall be submitted to the Architect for approval to be later turned over to the operating personnel.

B. The Manual shall contain the following item:

1. Brief description of each system covering its basic operating characteristics.

2. List of all equipment with manufacturer's name and model number of each item.

3. Manufacturer's literature describing each item of equipment.

4. Part list of each major item of equipment.

5. Recommended inventory of spare parts for all systems.

6. Detailed step by step instructions for starting, operation, and shutdown of each system.

C. All written material contained in the manual shall be typewritten or printed.

D. If a change in material, equipment or function occurs during the course of installation, these changes shall be incorporated in this manual.

DIVISION 16 ELECTRICAL

SECTION 16050

ELECTRICAL WORK - GENERAL

For listing of subsections, see subsection index at end of section.

PART ONE - GENERAL

1.01 DESCRIPTION

A. Install electric power, lighting and grounding systems, including the installation and wiring of miscellaneous instruments and devices.

B. Furnish temporary circuits, over current devices, conduit and wiring, and other equipment required during change-over from existing to proposed electric system.

1.02 QUALITY ASSURANCE

A. Install electrical work in conformance with latest rules and requirements of National Fire Protection Association Standard No. 70 (National Electrical Code) and with requirements of Puerto Rico Electric Energy Authority.

1.03 AUTHORITY SUBMITTALS

A. Shop Drawings and Data: Include manufacturer's drawings, bills of material, panel and equipment layouts, catalog data, wiring diagrams and other documentary or descriptive information as required for each assembly submitted in one package insofar as possible.

1. Bills of material: Include a numbered list of all components, with manufacturer's name, catalog number or similar identification on all other drawings where item appears.
2. Where additions and modifications are made to existing equipment, provide drawings which include both retained existing equipment and new work.
3. Mark shop drawings and data submitted showing only items applicable to specific contract.
4. Make early submission of certain drawings where dimensions of equipment, location of conduit entrances, etc., are important to facilitate construction.
5. Include one-line diagrams, schematic diagrams and wiring diagrams.

Submit only completed drawings showing all local and remote devices associated with each item. Submit one complete package of shop drawings as far as possible. Partial submittals may be returned without action.

6. Submit list of type and make of conduit, fittings, wires, cables, switches, fixtures, receptacles, pushbuttons, sleeves and inserts, etc.

7. Submit for installation, operation, and maintenance of equipment, and parts list. Specifically mark standard publications forming a part of this contract. Cross out, blank out, or otherwise delete any non-applicable items.

8. Install nameplates on all devices or pieces of equipment for which use or identification not readily apparent, such as, starters, relays, contactors, pushbuttons, indicating lights, and switches. Ensure position of nameplates readable after equipment installation.

9. Submit samples of wires and cables.

10. As soon as possible after award of contract, submit all information and data on wires, cables, and other long delivery items proposed. Early submission for review and early ordering are required to avoid delays in completion of work.

1.04 INTERFERENCE AND ERRONEOUS LOCATIONS

A. Locations of electrical equipment, devices, outlets, and similar items, as indicated, are approximate only. Exact locations determined or accepted during construction.

B. Verify, in field, all data and final locations of work, done under other sections of specifications, required for placing of electrical work.

C. In case of interference with other work or erroneous locations with respect to equipment or structures, furnish all labor and materials necessary to complete work.

1.05 APPROVAL AND MARKING EQUIPMENT

A. Insure that devices and materials are listed and/or labeled by Underwriters Laboratories, Inc., wherever standards have been established by that agency. Where Underwriters Laboratories listing is not available for equipment, submit certified test reports of adequately equipped, recognized, independent testing laboratory, approved by the local inspecting authority, other applicable requirements. In lieu of independent test reports, written approval of equipment by local electrical inspecting authority will be acceptable.

B. Clearly mark equipment, devices and material with name or trademark of manufacturer and rating in volts and amperes and other pertinent information on a nameplate.

1.06 ELECTRIC SERVICE

A. Earth and rock excavation, backfill, concrete masonry, concrete reinforcement, and construction joints required for electrical work: Conform to requirements specified under applicable sections of specifications.

B. Contractor to furnish and install transformer substation, primary cable and conduit, secondary cable and conduit, stress cones, concrete pads, etc.

C. Furnish and install all necessary conduit and wire to service pole, extend conduit up pole for distance of 10 feet, and leave sufficient length of conductors to reach power company's overhead conductors. Connections at pole made by the power company. Perform work at service pole in accordance with power company's requirements.

D. Perform work at transformer substation in accordance with power company's requirements and in manner approved by power company.

PART THREE - EXECUTION

3.01 METERING EQUIPMENT

A. Obtain from power company drilling templates, dimensions, and mounting arrangements for metering transformers.

B. Ensure that metering equipment installation is in accordance with requirements of power company by submitting drawings, sketches, catalog information and other appropriate material for power company approval.

3.02 REMOVAL AND RELOCATION OF MATERIAL AND EQUIPMENT

A. Carefully dismantle and salvage electrical equipment, switches, fixtures, conduits, cables, wiring, etc., as necessary to carry out proposed changes. Rehabilitate and relocate items of equipment as required and as indicated or specified.

B. Deliver material and equipment not indicated for reuse to Owner for his disposal.

3.03 PROTECTION OF ELECTRICAL EQUIPMENT

Protects electrical equipment from the weather, especially from water

dripping or splashing upon it, at all times during shipment, storage, and construction. Do not store equipment outdoors. Where equipment is installed or stored outdoors. Where equipment is installed or stored in moist areas, such as unheated buildings, etc., provide acceptable means to prevent moisture damage, such as uniformly distributed source of heat to prevent condensation.

3.04 DEFECTIVE OR DAMAGE EQUIPMENT

A. GENERAL

- 1.01 Description
- 1.02 Quality Assurance
- 1.03 Authority Submittals
- 1.04 Interference and Erroneous Locations
- 1.05 Approval and Marking Equipment
- 1.06 Electric Service
- 1.07 Power System Study
- 1.08 Incoming Service

C. EXECUTION

- 3.01 Metering Equipment
- 3.02 Removal and Relocation of Material and Equipment
- 3.03 Protection of Electrical Equipment
- 3.04 Defective or Damage Equipment

SECTION 16120

ELECTRIC WIRES AND CABLES

For listing of subsections, see subsection index at end of section.

PART ONE - GENERAL

1.01 DESCRIPTION

A. Furnish and install all wires and cables necessary for complete electrical system, as indicated and specified.

1.02 REFERENCE STANDARDS

A. NEC: National Electrical Code: National Fire Protection Association, 470 Atlantic Avenue, Boston, MA.

B. U.U. Underwriters Laboratories, Inc., 333 Pfingston Road, Northbrook, IL.

1. U.L. 44 - Wires and Cables Rubber Insulated

2. U.L. 83 - Wires Thermoplastic-Insulated

3. U.L. 854 - Cable, Service Entrance

C. NEMA: National Electrical Mfg's Association, 2101 L Street, N.W., Washington, D.C. 20037.

1. WC 3 - Rubber Insulated Wire & Cable

2. WC 5 - Thermoplastic Insulated Wire & Cable

3. WC 7 - Cross-Linked-Thermosetting Polyethylene-Insulated Wire & Cable

4. WC 8 - Ethylene-Propylene-Rubber-Insulated Wire & Cable

5. WC 30- Color Coding of Wires & Cable

1.03 SUBMITTALS

A. Shop drawings and manufacturer's product data in accordance with requirements of Section 01000.

B. Two sample of each type of wire. Samples of necessary length with

manufacturer's name and number of type, voltage rating, conductor size, and insulation type on each conductor sample. Color code all control, indicating and metering wiring, and lighting branch-circuit wiring.

1.04 MANUFACTURER'S COMPLIANCE

- A. Contingent upon products compliance with specifications.
- B. 15 Kv Cable:
 - 1. General Electric Company, 1260 Boston Avenue, Bridgeport, CT-Type.
 - 2. Rome Cable Division of Alcoa, 1501 Alcoa Building, Pittsburgh, PA-Type XLP.
 - 3. Triangle Conduit and Cable Company, Inc., P.O. Box 711, New Brunswick, NJ - Everene cable.
 - 4. The Anaconda Company, Wire and Cable Division, Greenwich, CT.
- C. 600V, 480V, 380V, 220V, 208V, 200V, 115V cable:
 - 1. General Electric Company.
 - 2. Rome Cable Division.
 - 3. The Rockbestos Company, 550 Nicoll Street, New Haven, CT.
- D. Control and metering wire:
 - 1. The Rockbestos Wire and Cable Company, single and multiconductor, 600V control cable.
 - 2. General Electric Company - Vulkene control cable, Type SI.
 - 3. Rome Cable Company - Control cable, 600V, Type B, size 12, 7 strand.
- E. Cable fireproofing tape:
 - 1. MAC Products, Inc., 60 Pennsylvania Avenue, Kearny, NJ.
 - 2. Acceptable equivalent.

PART TWO - PRODUCTS

2.01 MATERIALS

A. Furnish copper conductors. Material and stranding of conductors: Conform to ASTM B33-80, ASTM B3-80, and to ASTM B8-77, for the appropriate class. No.12 Awg minimum wire size unless otherwise noted.

B. Tinned wire used with natural rubber insulation: Conforms to ASTM B33. Uncoated, soft or annealed copper wire conforming to ASTM B3-80.

C. 15 Kv/5 Kv cables: single-conductor, shielded, grounded cross-linked polyethylene insulated, 90 degrees c, copper conductors. The outer jacket: polyvinylchloride.

D. Wires and cables for maximum 600-volt power circuits: Type XHHW rated RHW with cross-linked polyethylene insulation, Type RHW-75C with rubber or rubberlike insulation and neoprene jacket or ethylene propylene rubber EPR.

E. Wires and cables for lighting and other 120/240-volt and 120/208-volt circuits: Type THW-75C.

F. Wires and cables for control, indicating, metering, or alarm circuits: single and multi-conductor control cable, copper conductors, Class B or C stranding. Insulation, 600-volt polyethylene, polyvinylchloride, or E.P.R.

G. Shielded cable for instrumentation wiring: 19-strand copper conductors, size No. 16 AWG. Insulate conductors individually with color coded polyethylene or polyvinylchloride. Twist pairs twisted with varying lay (if more than one pair) and cover with cable tape and copper or aluminum coated mylar shielding tape and tinned copper drain wire. Jacket: polyvinylchloride. Cables: rated 600 volts and 90 degrees C.

PART THREE - EXECUTION

3.01 GENERAL INSTALLATION

A. Install wiring in accordance with applicable provisions of National Electrical Code, and as indicated.

B. Wire and cable sizes are indicated however, in no case use smaller cable sizes than required by the National Electrical Code.

C. Unless otherwise indicated, use no conductor smaller than No. 12 AWG.

D. Conductors for branch lighting circuit: Install conductors of sizes that greatest voltage drop between lighting panel and center of load will not exceed 3 percent at rated load.

E. Number and sizes of wires and conduits indicated are guide only and are not necessarily correct numbers and sizes necessary for actual equipment installed. Install as many wires and conduits as required and necessary for complete electrical system, and provide adequately for the equipment actually installed.

F. Install conductors continuous from outlet to outlet and make no splices except within outlet or junction boxes.

G. Draw all conductors contained within single conduit at same time.

H. Apply wire pulling compound if required to conductors being drawn through conduits. Use pulling compound, Minerallac No. 100, Y-er-Eas, Yellow 77 or acceptable equivalent.

I. Use no cable bend with radius of less than eight times its diameter.

J. Wires and cables installed without prior submittal review and approval are subject to removal at no additional expense to Owner.

K. Support cables in rise conduits at intervals as required by National Electrical Code.

3.02 15 KV AND 5 KV CABLE SPLICING AND TERMINATIONS

A. Use primary 15 Kv/5 Kv cable terminations with rating of 15,000 volts/5,000 volt. Ensure that standard withstand conforms to IEEE Std. 48 and is in compliance with specification Section 16999, Field Acceptance Tests. Use potheads, elbows connectors, clamp type connectors or termination as recommended by equipment manufacturer.

B. Ensure that all splicing and terminating of 15 Kv and 5 Kv cable is in accordance with designs, materials, and instructions set forth by cable manufacturer.

C. Wrap cables in manholes with fireproof tape which meets ASTM D 626. Install tape in accordance with manufacturer's instructions.

3.03 CONDUCTOR IDENTIFICATION

A. Label each wire at both termination points. Carry individual conductor or circuit identification throughout, with circuit numbers or other identification clearly stamped on terminal boards and printed on directory cards in distribution cabinets and panelboards.

B. Identify each wire in junction boxes, cabinets, and terminal boxes where total

number of control, indicating, and metering wires is three or more and no terminal board is provided, including all power wire by means of plastic-coated, self-adhesive, wire marker.

C. In cases similar to above where terminal boards are provided for the control, indicating, and metering wires, identify all wires including motor leads and other power wires too large for connection to terminal boards, by wire markers as specified above.

D. In manholes, identify each wire by laminated plastic tag located so easily seen.

3.04 CONNECTORS, TERMINAL LUGS AND BOARDS

A. For wiring of circuits consisting of No. 10 or No. 12 AWG solid wires, such as for lighting branch circuits, utilize self-insulated pressure type connectors for all splices or joints.

B. Terminate all wires connected to terminal boards, terminal blocks, or to other similar terminals by means of ring and tongue, nylon self-insulated, tin-plated copper pressure terminals.

C. Fabricated terminal boards, installed where indicated, of type 600 volts, 30 amperes, screw terminals, with white marking strips for wire identification, of the 4-, 6-, 8-, or 12 pole type, as necessary.

D. Clearly and permanently mark terminal strips with ink or indelible pencil. Mark each wire consistently throughout entire system, using notation of wires given on manufacturer's wiring diagrams wherever possible.

PART FOUR - SUBSECTION INDEX

A. GENERAL

1.01 DESCRIPTION

1.02 REFERENCE STANDARDS

1.03 SUBMITTALS

1.04 MANUFACTURER'S COMPLIANCE

B. PRODUCTS

2.01 MATERIALS

C. EXECUTION

3.01 GENERAL INSTALLATION

- 3.02 15 KV CABLE SPLICING AND TERMINATIONS
- 3.03 CONDUCTOR IDENTIFICATION
- 3.04 CONNECTORS, TERMINAL LUGS AND BOARDS

SECTION 16140

WIRING DEVICES

For listing of subsections, see subsection index at end of section.

PART ONE - GENERAL

1.01 DESCRIPTION

A. Furnish, install, field test, and place in successful operating condition, wiring devices as indicated and as specified.

1.02 REFERENCE STANDARDS

A. NEMA: National Electrical Manufacturer's Association, 2102 L Street Northwest, Washington, D.C.

B. Federal Specifications, Superintendent of Documents, U.S. Government Printing Office Washington, D.C. 20402.

1. W-S 89c(1) Switch, Toggle, Single Unit with wall plates.

2. W-C-596, b(1) Plug, Electrical Connector, Receptacle, Electrical.

C. Underwriter's Laboratories, Incorporated Standards.

PART TWO - PRODUCTS

2.01 MANUFACTURERS

A. Arrow-Hart, Inc., Florence, KY.

B. Allen-Bradley Co., Milwaukee, WI.

C. Appleton Electric Co., Chicago, IL.

D. Bryant Electric, Div. of Westinghouse, Bridgeport, CT.

E. Cutler Hammer, Inc., Milwaukee, WI.

F. Crouse-Hinds Co., Syracuse, NY.

G. Harvey Hubbell, Inc., Bridgeport, CT.

H. Midland-Ross Corp., Electrical Products Div., Pittsburgh, PA.

I. Sierra Electric, Div. of Sola Basic Inc., Gardena, CA.

2.02 WALL SWITCHES

A. Provide alternating current, general-use, snap switches, in flush device boxes or on outlet box covers, totally enclosed in composition case, with insulated mounting yoke and sidewired, binding screw-type terminals. Single-pole, 2-pole, 3-way, or 4-way switches rated 20 amperes at 120/277 volts a.c.

B. Switches for controlling lighting:

1. Arrow-Hart Cat. No. 1991, 1992 or 1994

2. Harvey Hubbell Cat. No. 1221, 1222, 1223, or 1224

3. Bryant Electric Cat. No. 5721X, 5722X, 5723X, or 5724X

C. Provide pilot lights for switches controlling lights in seldom frequented locations consisting of either separate units or a 2-unit combination with separate switch and yoke-mounted candelabra base socket rated 75 watts, 125 volts and fitted with a ruby lens. Provide a clear 6- or 7-watt lamp with each pilot.

2.03 WATERTIGHT SWITCHES

A. Provide watertight switches consisting of flush mounting switches in NEMA type 4 gasketed cast metal boxes, switch operable through shaft in matching cast metal cover, twenty-ampere, 120/277-volt switch enclosures:

1. Crouse-Hinds Type MC or MCC

2. Allen-Bradley Cat. No. 600-TCX-r

3. Cutler-Hammer Cat. No. 91-1 H 96

2.04 EXPLOSIONPROOF SWITCHES

A. Provide explosionproof switches consisting of flush mounting switches in cast metal boxes meeting requirements for NEMA Type 7D enclosure approved for use in National Electric Code Class I, Group D, Div. 1, atmosphere. Switch operable through shaft in matching cast metal cover, 20-ampere, 120/277-volt switch assemblies:

1. Crouse-Hinds Type EFS

2. Midland-Ross Type EFS
3. Appleton Electric Type EFS

2.05 FLUSH RECEPTACLES

A. Provide twenty-ampere, 125-volt flush receptacles constructed in flush device boxes, and of grounding type in composition case with insulated mounting yoke, side wired, binding screw-type terminals.

B. Duplex receptacles

1. Arrow-Hart Cat. No. 5739-S
2. Harvey Hubbell Cat. No. 5362
3. Bryant Electric Cat. No. 5362
4. Sierra Electric Cat. No. 14602

C. Single receptacles

1. Arrow-Hart Cat. No. 5361
2. Harvey Hubbell Cat. No. 5361
3. Bryant Electric Cat. No.
4. Sierra Electric Cat. No. 1260S

2.06 CLOCK RECEPTACLES

A. Provide 3-Wire, 15-ampere, 125-volt hanger receptacle with flush stainless steel plate for each clock:

1. Arrow-Hart Cat. No. 5708
2. Harvey Hubbell Cat. No. 5235
3. Bryant Electric Cat. No. 2828GS
4. Sierra Electric Cat. No. 2123

2.07 SPECIAL RECEPTACLES

A. Provide weatherproof devices rated 20 ampere, 125 volt, consisting of single receptacles with spring loaded, soft gasketed hinged covers with stainless steel spring. Covers as follows:

1. Arrow-Hart Cat. No. 4500FS
2. Harvey Hubbell Ct. No. 5206
3. Bryant Electric Cat. No. 4510

B. Provide watertight, gasketed cast-metal enclosures with covers in areas subject to hose-down, meeting requirements, and either standard single or duplex type:

1. Appleton Electric Cat. No. AEE3382 and AEP3361, Style 2.
2. Crouse-Hinds Cat. No. ARRH3322 and APJ3385, Style 2.
3. Midland-Ross Cat. No. 3313 and 3317, Type SCA.

C. Provide receptacles with matching plug or cord cap designed to meet NEMA 4 requirements when plug, cord and receptacle are assembled.

D. Provide explosionproof 20-ampere receptacles, of the delayed action type, preventing contact from being broken until arc has been extinguished. Receptacles with angle covers and spring-closed flaps:

1. Crouse-Hinds Type CPS
2. Appleton Electric Type CPS
3. Midland-Ross Type EFS

E. Furnish one explosionproof plug for each three receptacles, with minimum of one, plugs to match receptacles and from same manufacturer.

F. Provide welding receptacles whereby plug ground contact makes contact with receptacle ground contact before current carrying contacts engage, and when withdrawing plug, ground contact remains engaged until after current carrying ground contacts disengage.

2.08 OUTLET BOXES AND ENCLOSURES

A. Provide outlet boxes and enclosures conforming to Section 160, Electrical

Raceway Systems unless otherwise indicated.

2.09 DEVICE PLATES

A. Provide device plates suitable for type of outlet boxes and enclosures used. Plates for flush-mounting by device manufacturer. Plates for surface-mounting boxes by either device manufacturer or box manufacturer.

B. Provide flush device plates of high corrosion resistant, Type 302 stainless steel, in process areas, laboratories and in other areas exposed to corrosive condition. Provide plates of 93,000 series thickness, not less than 0.030 in.

C. Provide flush device plates either Types 302 or 430 stainless steel in noncorrosive areas. Provide plates of either 93,000 series or 97,000 series, not less than 0.030 in.

D. Provide flush device plates of material and finish indicated, in certain designated areas.

2.10 NAMEPLATES

A. Provide nameplates or equivalent markings on switch enclosures to indicate ON and OFF positions of each switch. Do not use ON and OFF for 3-way or 4-way switches. Receptacles for special purpose shall have nameplates indicating their use, unless use is obvious. Nameplates shall otherwise conform to requirements specified under Section 16050.

PART THREE - EXECUTION

3.01 CONNECTION

A. Securely and rigidly attach wiring devices in accordance with regulating agency, and as indicated, avoiding interference with other equipment.

B. Securely fasten nameplates using screws, bolts, or rivets and centered under or on the device, unless otherwise indicated.

3.02 GROUNDING

A. Ground all devices.

B. Ground switches and their metal plates through switch mounting yoke, outlet box, and raceway system.

B. Ground flush receptacles and their metal plates through positive ground

connection to outlet box and grounding system. Maintain ground to each receptacle by spring-loaded grounding contact to mounting screw, or by grounding jumper, both making positive connection to outlet box and grounding system at all times.

D. Ground explosionproof receptacles and plugs by making contact between the metal shells, and also by using a grounding pin to make contact before power contacts are made.

PART FOUR - SUBSECTION INDEX

A. GENERAL

- 1.01 DESCRIPTION
- 1.02 REFERENCE STANDARDS

B. PRODUCTS

- 2.01 MANUFACTURERS
- 2.02 WALL SWITCHES
- 2.03 WATERTIGHT SWITCHES
- 2.04 EXPLOSIONPROOF SWITCHES
- 2.05 FLUSH RECEPTACLES
- 2.06 CLOCK RECEPTACLES
- 2.07 SPECIAL RECEPTACLES
- 2.08 OUTLET PLATES
- 2.09 DEVICE PLATES
- 2.10 NAMEPLATES

C. EXECUTION

- 3.01 CONNECTION
- 3.02 GROUNDING

SECTION 16160

PANELBOARDS

For listing of subsections, see subsection index at end of section.

PART ONE - GENERAL

1.01 DESCRIPTION

A. Furnish and install panelboards including circuit breakers and cabinets complete, in conformance with the latest NEMA Standards and Federal Specifications listed below.

1.02 REFERENCE STANDARDS

A. NEMA: National Electrical Manufacturers Association, 2101 L Street Northwest, Washington, D.C.

1. PBI-1971

2. ABI-1975

B. NEC: National Electrical Code, National Fire Protection Association, 470 Atlantic Avenue, Boston, MA.

C. UL: Underwriter's Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL.

1. UL 67-74 (Revise 1976)- Panelboards

PART TWO - PRODUCTS

2.01 PANELBOARD MANUFACTURERS

A. Manufacturers acceptable contingent upon products' compliance with the specifications:

1. General Electric Company, 1 River Road Schenectady, NY.

2. Westinghouse Electric Corp., Distribution Equipment Division, 1945 Craig Road, St. Louis, MO.

3. Square D Company, Park Ridge, IL.

2.02 PANELBOARDS

- A. Factory assembled deadfront type panelboards.
- B. Furnish panelboards complete with branch circuit breakers and a main circuit breaker or main lugs only as indicated.
- C. Furnish panelboards with full capacity separate ground bus and furnish panelboards connected to a 3-phase, 4-wire service with an insulated neutral bus.
- D. Provide panelboards with the voltage, frequency and current ratings as indicated conforming to NEMA Standard PBI, Federal Specification W-P-1154 U.L. 67, and the N.E.C.
- E. Furnish panelboards with main and neutral buses, with minimum 98 percent conductivity rectangular copper bars provided with bolted type lugs as necessary.
- F. Drill buses to fit either "A", "B", or "C" phase connectors, and ensure that connectors are interchangeable and installed in a distributed phase sequence.
- G. Silver plate buses, connectors and terminals to a minimum thickness of 0.005-in., conforming to the requirements of Federal Spec. QQ-S-365B.
- H. Prevent terminal lugs from turning per NEMA standard PBI-1971 and ensure they are suitable for the conductor material and size.
- I. Main bus-bracing for each panel board shall be for 10,000 amperes symmetrical short circuit or as otherwise indicated.

2.03 CIRCUIT BREAKERS

- A. Furnish bolt-on type branch and main circuit breakers. Furnish frame sizes, trip setting and number of poles as indicated. Circuit breakers shall have their ampere trip rating clearly marked and visible.
- B. Furnish all breakers with quick-make, quick-break, toggle mechanisms and thermal-magnetic, inverse time-limit overload and instantaneous short circuit protection on all poles, unless otherwise indicated. Automatic tripping shall be indicated by the breaker handle assuming a clearly distinctive position from the manual ON and OFF position. Furnish all breakers handle that is trip-free on overloads.
- C. Do not use single pole breakers with handle ties or bails in lieu of multipole breakers.
- D. Furnish handle lock device on breakers as indicated to prevent the manual

opening of the selected breakers.

E. Furnish padlocking device on breakers as indicated to prevent the opening if indicated breakers.

F. Ensure that voltage and interrupting rating of all breakers in a panelboard is not less than voltage and short circuit rating of the panelboard main buses, as indicated. Furnish breakers suitable to operate satisfactorily at the frequency indicated.

G. Furnish ground fault interrupter circuit breakers for certain circuits as indicated on the drawings.

H. Furnish single pole breakers with full module size. Do not install two pole breakers in a single module.

I. Furnish time-current characteristic curves and other necessary information and data for each size of breaker furnished.

J. Ensure that branch and main circuit breakers rated 120 and 240 volts have an interrupting rating of not less than 10,000 rms amperes, symmetrical, at rated voltage.

2.04 CABINET

A. Cabinets shall be NEMA I type, unless otherwise indicated and shall be without knockouts. Drill cabinets only for the exact conduit entrances and mounting bolts.

B. Finish cabinet fronts, trims and surface-mounted boxes in ANSI No. 61, light-gray enamel over a rust-inhibitive primer. Attach the fronts (exterior trims) to the boxes or interior trims, by quarter-turn, indicating trim clamps. Design cabinets for surface or flush mounting as indicated.

C. Unless otherwise specified, construct panelboard cabinets of code-gauge galvanized, sheet steel and equip with gutters of ample size for the risers and outgoing circuits. Ensure that the cabinets do not exceed 78-in. (1980 mm) in height.

PART THREE - EXECUTION

3.01 INSTALLATION

A. Mount all panelboards such that the height of the top operating handle does not exceed 6 ft. 6-in. (1980 mm) from the floor.

B. Hang each door of the cabinet on semi or fully concealed hinges with a combination catch and lock.

C. On cabinets 48 in. (1200 mm) high and over, install a 3 point, catch assembly latching at top, bottom and approximate middle.

D. All panelboard locks shall be keyed alike.

PART FOUR - SUBSECTION INDEX

A. GENERAL

1.01 DESCRIPTION

1.02 REFERENCE STANDARDS

B. PRODUCTS

2.01 PANELBOARDS MANUFACTURERS

2.02 PANELBOARDS

2.03 CIRCUIT BREAKERS

2.04 CABINET

C. EXECUTION

3.01 INSTALLATION

SECTION 16450

GROUNDING

For listing of subsections, see subsection index at end of section.

PART ONE - GENERAL

1.01 DESCRIPTION

A. Furnish and install a single, complete, integrated grounding system, including all conductors, raceways, and connections, specified and indicated.

B. Include grounding of switchgear, substations, motor control centers, electric equipment enclosures etc., outdoor substations, transformers, switch structures, etc.; ground grid system with ground rod and water pipe connections; structural steel, and lightning protection system.

C. Include grounding conductors completely interconnecting water supply pipe, ground rods, ground grid, substation, switchgear and motor control center ground buses, other distribution equipment, and other groundable equipment.

1.02 REQUIREMENTS OF REGULATORY AGENCIES

A. Install complete grounding system in accordance with codes, and standards.

1.03 REFERENCE STANDARDS

A. American National Standards Institute:

1. ANSI C2.-1978 National Electrical Safety Code

B. National Fire Protection Association, 470 Atlantic Avenue, Boston, MA:

1. NFPA 70-1981 National Electric Code

2. NFPA 78-1975 Lightning Protection Code

1.04 TESTS

A. Measure ground grid resistance with earth test megohmmeter and install additional ground rods and conductors as required until resistance to interconnected ground system is 5 ohms or less. Measure ground resistance in normally dry conditions and not less than 48 hours after rainfall.

PART TWO - PRODUCTS

2.01 MANUFACTURERS ACCEPTABLE

- A. Contingent upon products compliance with the specifications.
- B. Ground rods - Copperweld Corporation, 2 Oliver Plaza, Pittsburgh, PA.

2.02 CONDUCTORS

A. Furnish soft drawn stranded copper grounding conductors. Minimum size of unenclosed grounding conductor shall be No. 6 Awg. All conductors shall be protected if physical damage would result from exposure.

B. Furnish bare conductors where buried in earth or where embedded in concrete.

C. In buildings run insulated grounding conductors with green insulation only.

D. Furnish insulated grounding conductors with insulation rated at 600 volts.

E. Furnish grounding conductors for installation in all non-metallic raceway in addition to, and not to be considered as, the neutral wire of the system.

F. Connect a grounding conductor between panelboard and grounding system. Where a grounding bar is furnished with panelboard, connect grounding conductor to bar.

2.03 GROUND BUS

A. Furnish a 2-in. by 1/4-in. copper bar complete with bolted type connectors as indicated. Connect grounding conductors from equipment in area to this ground bus. Connect ground bus to grounding system. Mount ground bus on 600 v pedestal insulators.

2.04 CONNECTIONS

A. Make all buried and concealed ground connections by exothermic welding.

B. Make accessible connections to structural members by exothermic welding process or by bolted connector. Connections to equipment or ground bus by acceptable bolted connectors. Furnish bolted ground connectors suitable for, and matching, grounding provisions furnished.

C. Furnish copper, brass, or silicon bronze ground clamps for use on copper or brass pipes.

D. Furnish ground clamps, for use on iron pipes, of galvanized or malleable iron, or of standard noncorrosive material.

E. Furnish ground clamps, for use on pipes, with rigid the pipe. Do not use strap type clamps.

F. Design cable to ground rod connectors capable of being installed without having to pass over end of ground rod.

G. Where conduits are not affectively grounded by firm contact with a grounded enclosure, apply grounding bushings on at least one end of conduit run.

H. Furnish copper-clad steel or galvanized steel ground rods; type, diameter and length as indicated on drawings.

PART THREE - EXECUTION

3.01 INSTALLATION OF GROUNDING CONDUCTORS

A. Install grounding conductors so not exposed to physical damage. Install connections firm and tight. Arrange conductors and connectors so no strain on connections.

B. Run grounding conductors associated with direct burial cables in common trenches above or if indicated beside cables.

C. Bury equipment grounding conductors 18-in. deep. Bring loops or taps up for connection to equipment or other items to be grounded.

D. Where raceways are used to contain and protect grounding conductors, install in accordance with Electrical Raceway System Section.

E. Where bare grounding conductors are contained within by suitable fittings.

F. Install loop type, low impedance, grounding system interconnecting all components so at least two grounding connections are provided for each major item of electrical equipment. Ensure that severing of any single grounding conductor in this system does not remove grounding protection on any major item.

G. Connect structural steel at locations indicated by an external perimeter loop of grounding conductor installed around all sides of building foundation, buried at least 18-in. (450 mm) below grade, and connect to each vertical column by loop or tap. Connect two opposite points on external loop to two different points on grounding system.

H. Perform exothermic welding with properly sized molds in good condition.

3.02 INSTALLATION OF GROUND RODS

A. Install ground rods in manholes in accordance with requirements specified under the section Underground Distribution Systems. Connect each grounding conductor entering a manhole to ground rod.

B. Install ground rods where indicated. Install the top of the rod 12-in. below the ground surface. Measure ground resistance of electric power service ground rod and if it is not 25 ohms or less, drive additional rods to obtain resistance of 25 ohms or less.

C. Make connection to overall grounding system as indicated.

D. Ensure that final resistance of interconnected ground system is 5 ohms, or less. Measure ground resistance in normally dry conditions, and not less than 48 hours after rainfall.

3.03 EQUIPMENT GROUNDING

A. Ground each piece of electrical equipment by means of a grounding conductor installed in raceway feeding that piece of equipment with copper wire sized in accordance with National Electric Code. Grounding conductors installed in conduit furnished with green, 600-volt insulation.

B. Connect transformer cases and neutrals to grounding system. Connect neutral ground connection at transformer terminal. Provide two separate, independent, diagonally opposite, connections for power transformers so removal of one connection will not impair continuity of other.

C. Connect two separate ground connections from ground grid to ground bus of switchgear, motor control centers and all outdoor substation equipment. Ensure that each connection for item of equipment is from different section of ground grid.

D. Install a separate grounding conductor from ground system to motors of 100 hp. and larger, in addition to raceway system. Ground motor ground connection to motor frame, independent of mounting bolts or sliding base. Ground motor to nearest point of grounding system, unless otherwise indicated.

E. Connect lightning arresters to ground system by suitable conductors.

F. Connect emergency generator neutral to grounding system by a grounding conductor of size required by National Electrical Code, unless a larger size is indicated. Connect grounding conductor to generator disconnect. Ground generator frame with two separate independent connections, so removal of one connection will not impair continuity of other.

G. Ground each street lighting standard by ground rod driven near base of standard, in accordance with requirements of National Electric Safety Code. Connect ground rods to grounding conductor brought with street lighting feeder cable.

H. Ground transformers, lightning arresters, insulators, etc., installed on poles, poles and timber structures, on metal structure. Run grounding conductors between poles or structure and ground rods. Protect grounding conductor by molding applied for at least 8 ft. above ground, with both molding and conductor stapled. Install ground rod where indicated, and driven until top of rod is 1 ft. below ground. Measure ground resistance of rod and if not 25 ohms or less, drive additional rods to obtain resistance of 25 ohms or less.

I. Ground wire fences when used to enclose electrical equipment. Unless otherwise indicated, provide minimal grounding by buried outside peripheral ground loop; connections to each corner fence post and nearby ground rod; flexible connections to each gate; and at least two connections to grounding system from approximately opposite positions on fence.

J. Also connect the ground rods to the grounding conductor run with the direct burial cable.

3.04 COMMERCIAL GROUNDING

A. Telephone:

1. Install one No. 2 insulated ground conductor to ground bus in telephone equipment cabinet.

2. Connect one No. 12 insulated ground conductor to all 68 conduits terminating at backboard.

PART FOUR - SUBSECTION INDEX

A. GENERAL

1.01 DESCRIPTION

1.02 REFERENCE STANDARDS

1.03 REQUIREMENTS OF REGULATORY AGENCIES

1.04 TESTS

B. PRODUCTS

2.01 TRANSFORMERS

2.02 TRANSFORMER MANUFACTURERS

C. EXECUTION
3.01 INSTALLATION

SECTION 16500

LIGHTING

For listing of subsections, see subsection index at end of section.

PART ONE - GENERAL

1.01 DESCRIPTION

- A. Furnish and install complete indoor lighting system.

1.02 REFERENCE STANDARD

- A. Underwriters' Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL.
- B. National Fire Protection Association, Battery March Park, Quincy, MA, 02269
NFPA 70 1981, National Electrical Code.
- C. Federal Specifications and Standards Superintendent of Documents U.S.
Government Printing Office, Washington, D.C., 20402:
 - 1. W-L-101 (5) Lamp, Incandescent (Electric, large, Tungsten Filament).
 - 2. W-L-001166 Lamps, Fluorescent.
 - 3. W-L-142a Lampholder, adaptor, and shadeholder, medium screw-shell,
125, 250, and 600 volts.
- D. American National Standards Institute:
 - 1. Fluorecent Lamp Ballasts, ANSI C82, 1-1972 and Supplement C82.1a.
 - 2. High Intensity Discharge Lamp Reference Ballasts, ANSI C82.5-1975.
 - 3. Mercury Lamp Ballasts, (Multiple Supply Type), ANSI C82.4-1974.
 - 4. Electric Lamp Bases and Holders, Fluorescent types, ANSI C81.20-1976.
 - 5. Electric Lamp Bases and Holders, Screw-Shell Types, ANSI C81.10-1976.

1.03 SUBMITTALS

- A. Submit manufacturer's installation instructions in accordance with General Specifications.

B. Submit manufacturer's shop drawings including photometric data to show that fixtures proposed are of same type, construction and quality as those indicated. Lighting fixtures listed and labeled by Underwriters Laboratories.

PART TWO - PRODUCTS

2.01 MANUFACTURERS

A. Lighting equipment as indicated or specified.

2.02 LAMPS

A. Furnish lamps of types and wattages shown in fixture scheduled.

B. Unless otherwise indicated, furnish fluorescent lamps suitable for 12-volt operation. Type: Rapid start, standard cool white, 48-in. long. 34 watt.

2.03 BALLASTS

A. Furnish high power factor type ballasts for fluorescent lamps. Ballasts are required to operate one, two, or four lamps as required by fixture schedule.

B. Ballast sound rating: "A".

C. Furnish ballasts class "P" type or equivalent protection, containing a nonrenewable, nonresetting thermal protector; designed for applicable indoor or outdoor use; conforming to UL Standard 935.

D. Furnish ballasts with power factor not less than 95 percent.

E. Furnish constant wattage (regulator) type ballasts for mercury vapor and metal halide lamps.

F. Ballast: In non-air conditioned spaces, rate for operation in 40-deg. C temperature environment.

G. Furnish mercury vapor and other H.I.D. ballasts suitable for 120 volt, 277 volt or 480 volt operation as indicated.

2.04 FIXTURES

A. Furnish fixtures complete with lamps of wattage indicated.

B. Furnish each fluorescent fixture with ballast of proper type and characteristic for lamps in fixture and with voltage rating as required by circuit in which fixture is

connected.

2.05 EMERGENCY LIGHTING AND EXIT LIGHTING FIXTURES

- A. Furnish types of fixtures shown in fixture scheduled.

PART THREE - EXECUTION

3.01 LIGHTING FIXTURES AND LAMPS

A. Install types and sizes indicated, complete. Deliver lamps of proper type, wattage and voltage and voltage rating to site and install in fixtures prior to completion of project.

B. Install all fixtures to comply with applicable provisions of National Electrical Code. Suspend pendant fixtures by means of suitable outlet box cover-type aligners, each having flexible joint permitting unit to hand plumb. Install stems on 1/2-in. galvanized steel conduits, unless otherwise specified.

- C. Use aligners of shock absorbing type, where indicated.

- D. Use vaportight aligners with vaportight fixtures.

E. Install each explosion-proof pendant fixture having stem longer than 12-in. (305 mm), with explosion-proof swivel of flexible fitting permitting fixture to hang plumb. Fixtures with stems shorter than 12-in. (305 mm) aligned by level outlet box mounting, explosion-proof swivels, or other acceptable means.

F. Install recessed fluorescent fixtures in suspended ceiling openings in conformance with manufacturer's recommendations. Install fixtures with adjustable fittings to permit alignment with ceiling panels. Install fixtures in fire-resistive type of suspended ceiling construction, equipped with fireproofing boxes constructed of materials of same fire rating as ceiling panels. Materials in conformance with UL approved building materials list.

G. Install accessories such as straps, mounting plates, nipples, or brackets necessary for proper installation.

H. Connect emergency light fixtures to separate unswitched circuit in lighting panelboard in a lighting circuit breaker locked in closed position.

PART FOUR - SUBSECTION INDEX

- A. GENERAL

1.01 DESCRIPTION

- 1.02 REFERENCE STANDARDS
- 1.03 SUBMITTALS

B. PRODUCTS

- 2.01 MANUFACTURERS
- 2.02 LAMPS
- 2.03 BALLASTS
- 2.04 FIXTURES
- 2.05 EMERGENCY LIGHTING AND EXIT LIGHTING FIXTURES

C. EXECUTION

- 3.01 LIGHTING FIXTURES AND LAMPS

SECTION 16999

FIELD ACCEPTANCE TESTS

For listing of subsections, see subsection index at end of section.

PART ONE - GENERAL

1.01 DESCRIPTION

A. After electrical installation is complete, make tests to demonstrate that entire system is in proper working order and in accordance with drawings and specifications. Make no test less than those outlined hereafter, unless requested in writing and approved by Program Manager. Tests are in addition to, and no substitution for, tests of individual items at manufacturer's plant. Make insulation and ground resistance tests before operating tests. Determine proper rotation of motors before permanent connections are made.

B. Pay all costs for tests including expenses incident to retests occasioned by defects and failures of equipment to meet specifications.

1. Replace wiring and equipment found defective, or failing to meet specified requirements, without charge.
2. Furnish three copies of all test results to Engineer.
3. Unless otherwise specified, owner will supply electric current necessary for tests.

1.02 REFERENCE STANDARDS

A. NEMA: National Electrical Manufacturers Association, 2101 L Street, Northwest, Washington, D.C.

B. IEEE: Institute of Electrical and Electronic Engineers, 345 East 47th Street, New York, NY.

PART TWO - PRODUCTS

2.01 TESTING EQUIPMENT

A. Calibration

1. Furnish suitable electrical instruments including voltmeters, ammeters, wattmeters, tachometers and all other equipment necessary to perform test

specified. Furnish certified copies of calibration curves of these instruments which have been calibrated for specific tests.

2. Make necessary openings in circuits for testing instruments and place and connect all instruments, equipment, and devices, necessary for the test. Upon completion of test, remove instruments and instrument connections and restore all circuits to permanent condition.

3. Other sections of these specifications require services of one or more manufacturer's representatives, to ensure that equipment supplied has been installed properly and adjusted to proper working order. Advise representative of all applicable tests in this Section, so that work will be coordinated, and tests combined where feasible.

2.02 TESTING

A. Coordination

1. Coordinate activities, and cooperate with others on project, to ensure that system are energized when required, loads applied, and other requirements of Section are carried out on timely, coordinated basis.

2. Conduct tests in presence of Engineer. Notify Engineer seven calendar days or more in advance when any test to be performed, and do not start tests without Engineer's permission.

B. Preparation

1. Make up no high and/or medium-voltage connections at service entrance, transformers, substations, motors, medium voltage motor control centers, switchgear and generator permanently until correct phase rotation of all equipment is determined.

2. Install and insulate these connections temporarily, if necessary, while determining proper rotation. Have permanent connections after proper rotation has been established and subsequent to completion of insulation resistance and dielectric tests.

PART THREE - INSULATION

3.01 INSULATION RESISTANCE TESTS OF CIRCUITS, 600 VOLTS AND BELOW

A. Do not subject conductors rated 600 volts and below to high potential dielectric tests. Test each complete feeder and branch circuit of 600 volts or below with everything but power supply and power-consuming equipment, connected thereto, and

have an insulation resistance between conductors and between each conductor and ground of not less than 1,000,000 ohms, unless otherwise accepted by Engineer.

B. Determine insulation resistance values with all switch boards, panelboards, fuseholders, switches, receptacles, and overcurrent devices in place.

C. Use megohmmeter having output of at least 500 volts to determine insulation resistance value for 600 volt rated conductors, and a 2400 volt megohmmeter for 5 kv and 15 kv rated conductors.

D. List each circuit and measured resistance as test data.

E. Maintain record of all insulation resistance valued. Identify conductor or equipment, data that value was taken and resistance value. Arrange information in suitable neat tabular form and turn to Engineer in triplicate.

3.02 DIELECTRIC TESTS OF CONDUCTORS RATED 2400 VOLTS AND ABOVE

A. After all high and/or medium-voltage conductors are installed, and before connecting and putting into service, subject to dielectric tests. Perform direct current, high-potential test from phase to phase and from phase to ground. Make tests as specified in latest edition of the applicable I CEA-NEMA Standard.

B. Complete and enclose splices in conductor system being tested within all pull, junction or splice boxes before test is started, and complete all potheads and switchgear terminations. Disconnect potential transformers an all power consuming equipment or devices from circuit, if any are present.

3.03 GROUND RESISTANCE

A. Test each ground rod in accordance with IEEE Std. 142, and submit tabulation of results. Include identification of electrode, date of reading and ground resistance value in results.

B. Test each entire grounding system for continuity of connections and for resistance. Ensure that ground resistance of conduits, equipment cases, and supporting frames does not vary appreciably from that of system as whole and does not exceed 5 ohms.

PART FOUR - SUBSECTION INDEX

A. GENERAL

1.01 DESCRIPTION

1.02 REFERENCE STANDARDS

B. PRODUCTS

2.01 TESTING EQUIPMENT

2.02 TESTING

C. EXECUTION

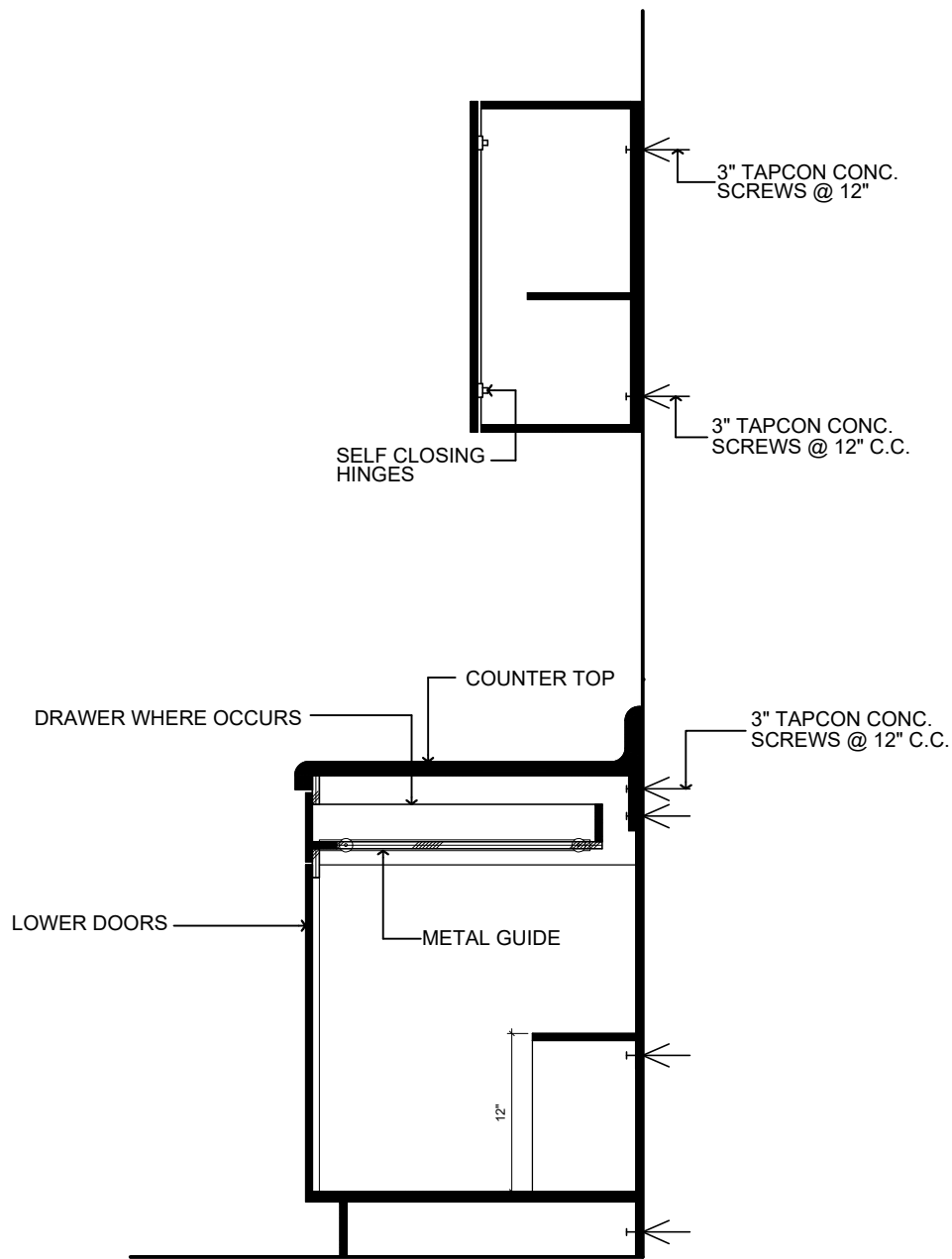
3.01 INSULATION RESISTANCE TESTS OF CIRCUITS, 600 VOLTS AND
BELOW

3.02 DIELECTRIC TEST OF CONDUCTORS RATED 2400 VOLTS AND
ABOVE

3.03 GROUND RESISTANCE



EJEMPLO - GABINETE



CABINET AND COUNTER NOTES:

1. ALL PANEL IN PVC .55
2. ALL THE UPPER CABINETS AND COUNTER TOPS SHALL BE WITH 3/4" THICK PANELS.
3. ALL VISIBLE CABINET AND COUNTER PARTS AND SHELF TOPS SHALL BE LAMINATED PLASTIC LAMINATES.
4. ALL COUNTER BASES SHALL BE PLASTIC LAMINATED.
5. SILICONE SEALANT SHALL BE USED TO CAULK AND SEAL UNDER SINK RIM AND COUNTER TOP.
6. ALL DOOR AND DRAWER PULLS SHALL BE LONG BACK-FASTENED FINGER-PULL METAL TYPE.
7. THE CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS OF ALL CABINETS TO BE APPROVED BY THE PM PRIOR TO PURCHASE MATERIALS FOR THE CONSTRUCTION AND INSTALLATION. HE/SHE SHALL VERIFY FIELD DIMENSIONS.
8. ALL CABINET DOORS SHALL BE SELF CLOSING, 175° SWING, INDIVIDUAL DOOR WITH ADJUSTMENT INVISIBLE SURFACE-MOUNTED HINGES AND MAGNETIC CATCHES.
9. ALL DRAWER SHALL HAVE FULL EXTENDED MEDIUM METAL DRAWER GUIDES ON BOTH SIDES. GUIDES SHALL PROVIDE FOR DRAWER REMOVAL.
10. EDGE OF BOTTOM SHELF OF BASE CABINET SHALL BE REINFORCED.
11. PROVIDE CUT OUTS FOR INSTALLATION OF WATER LINES AND ELECTRICAL CONDUITS.
12. COUNTERTOP SURFACES SHALL BE COVERED WITH LAMINATED PLASTIC (WITH A 4" HIGH SPLASH BOARD AT KITCHENETTE). ALL COVERED WITH CONTINUOUS LAMINATED PLASTIC SURFACE WITH CURVED CORNERS AND EDGES.
13. ALL EXPOSED CABINET HARDWARE SHALL BE SELECTED BY OWNER.

KITCHENETTE - TYPICAL SECTION DETAILS

PROJECT: REPAIR FEDERAL FUND OFFICE



Mueble

- Design:LT-2193
- Category: [Lamitech Laminates](#)
- Collection: [Lamitech Solid Colors](#)

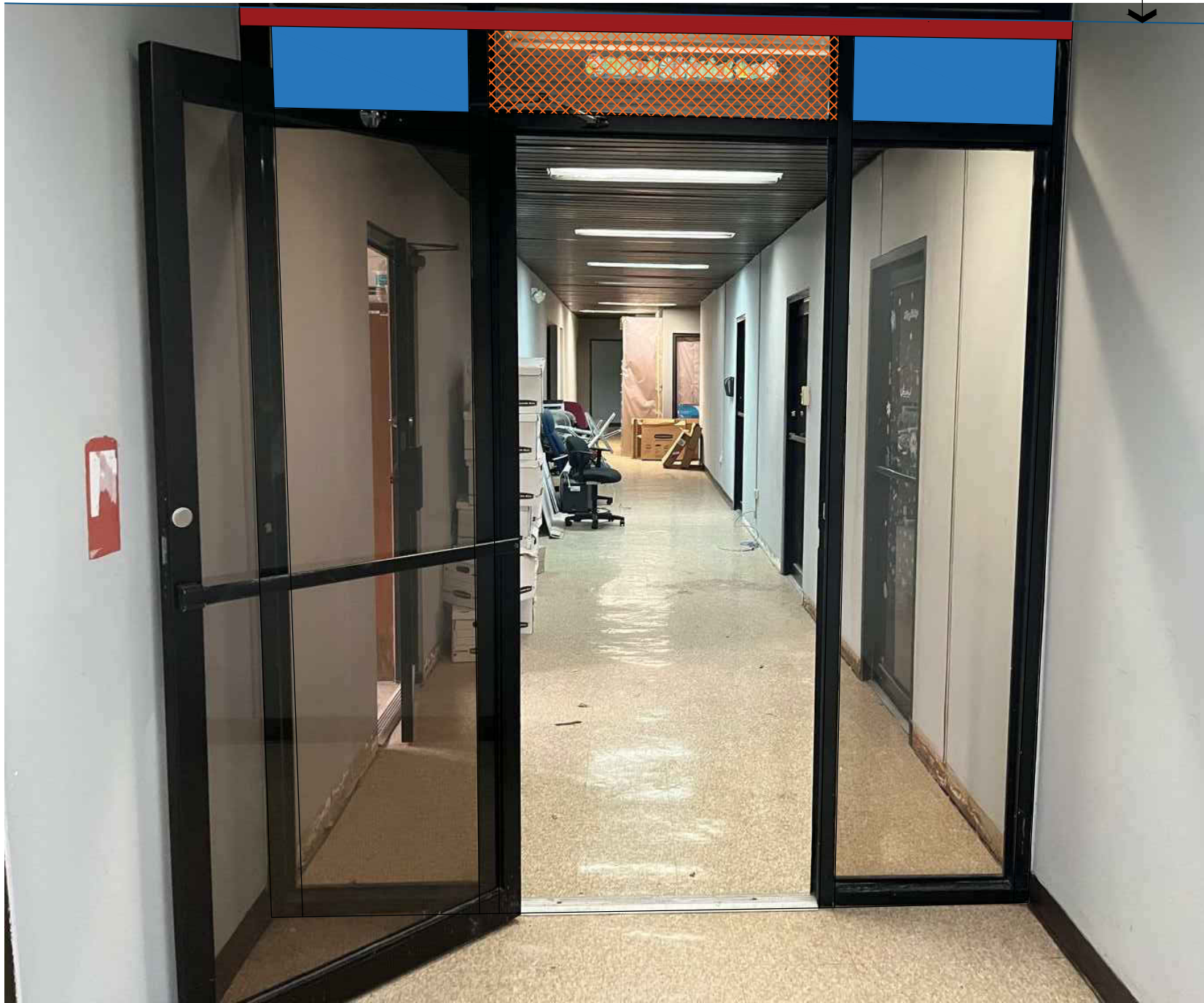


Tope

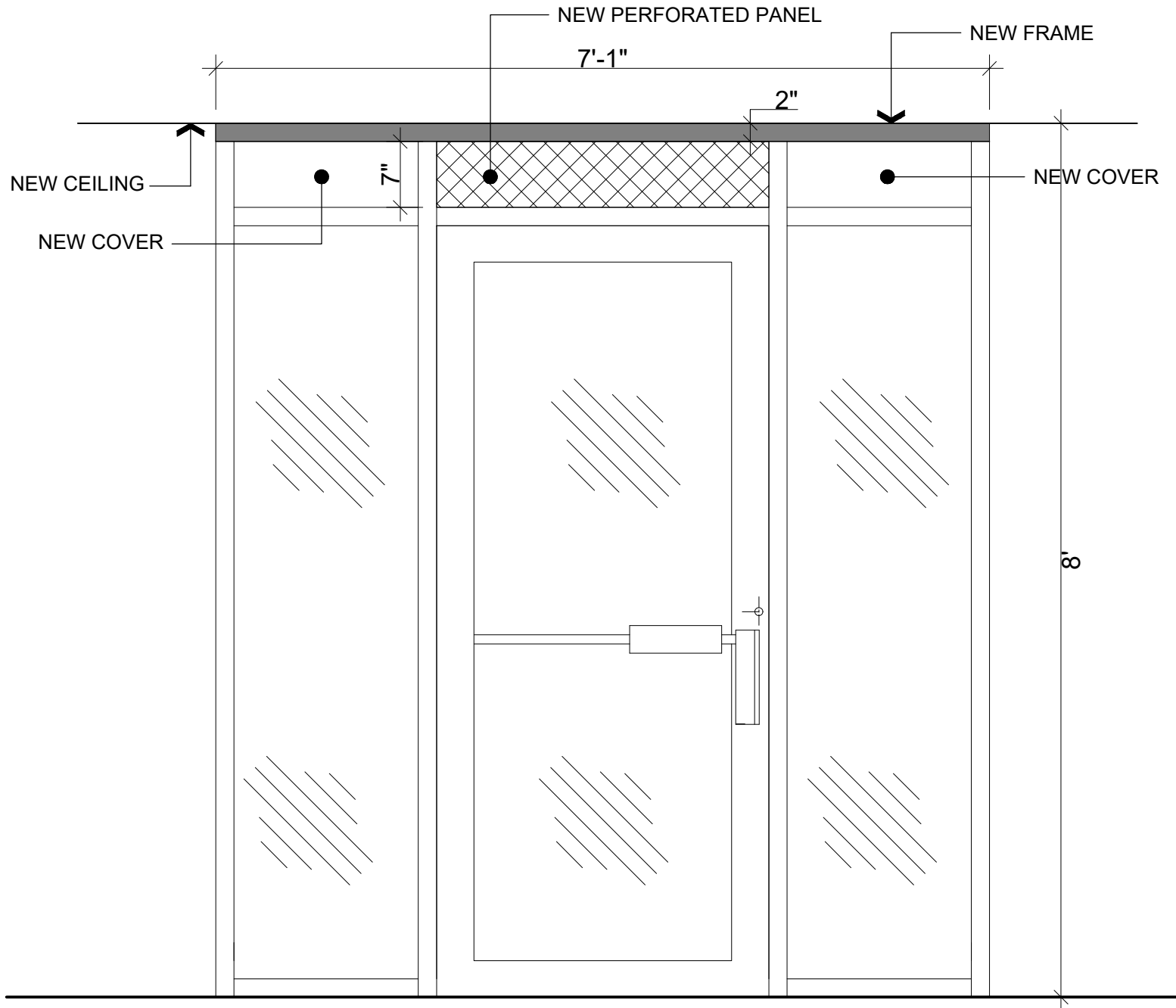
- Design:LT-3014
- Pattern:Granito Negro
- Category:[Lamitech Laminates](#)

Collection: [Lamitech Granite and Marble](#)

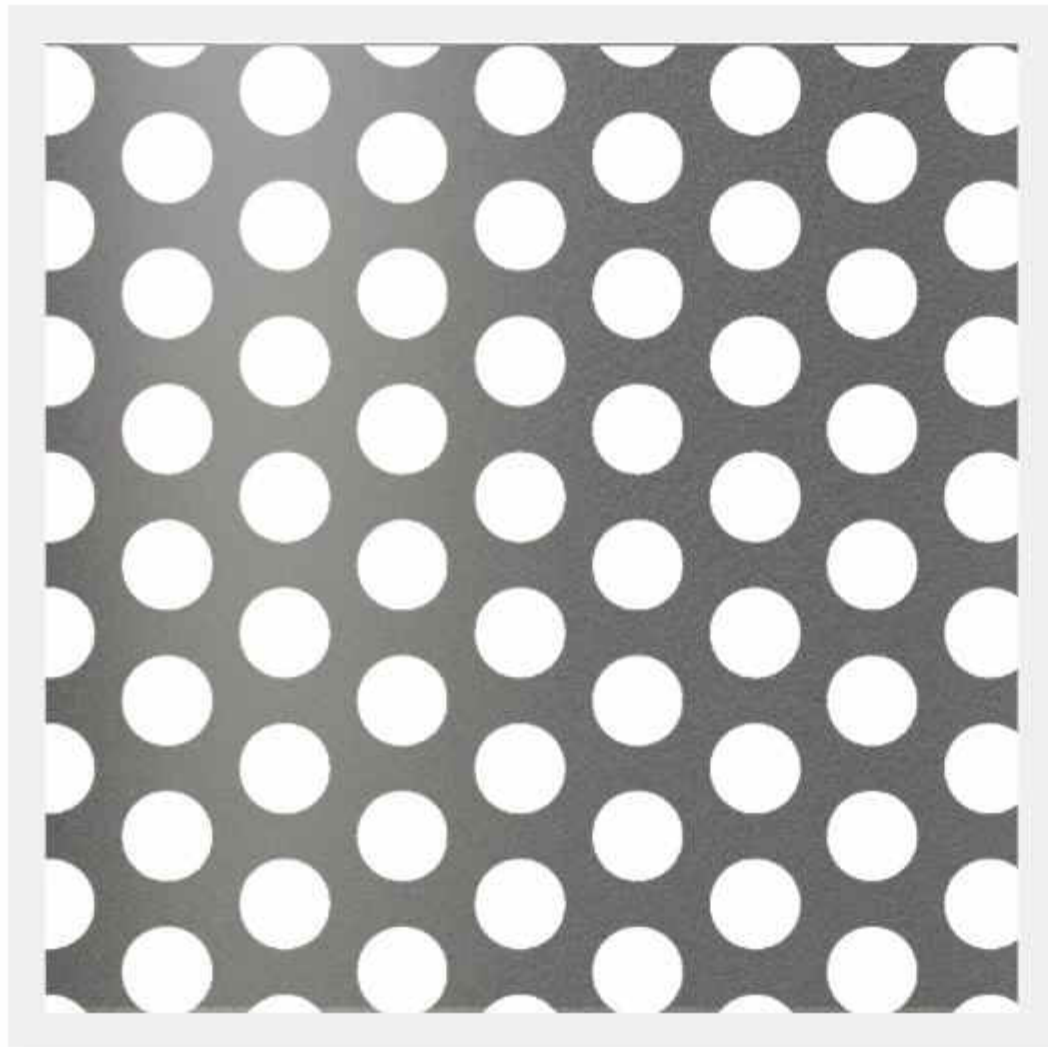
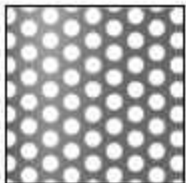
NEW ACOUSTIC @ 8'-0"



SCHEMATIC FOR DOOR NO. 19



DOOR NO. 19 DETAIL



Steel Perforated Panel 124832

Gauge 18, Staggered 1/2"
Round Hole, Galvanized Steel, 4'
x 8'

045.018.0500

\$114.16

Change Material

Steel Perforated Panel 124832 C ▾

Change Thickness

Steel Perforated Panel 124832 C ▾



STORE PICKUP



DELIVERY



SHIPPING



1 In Stock

[Check Inventory By Store](#)

-

1

+

ADD TO CART

 ADD CUTS

ADD TO WISHLIST





954 CLASSIC FINE TEXTURED

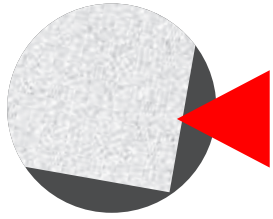
Classic Fine Textured ceiling panels provide high performance with a subtle plaster texture and grid-minimizing edge detail. Panels are available in a 24-in x 24-in tegular style.

FEATURES & BENEFITS

- Ideal for basements, home theaters, and light commercial spaces
- Superior acoustics; reduce noise 70%
- Superior sag and mold resistance
- Installs in Prelude® 15/16-in suspension system

CLASSIC FINE TEXTURED

OPTIONS



ENLARGED
TO SHOW
DETAIL

954 CLASSIC FINE TEXTURED

PERFORMANCE AND INSTALLATION GUIDE

Item #	Dimensions (Inches)	Edge Detail	Installation Method	Fire Resistance	Sag Resistance	Mold/ Mildew Resistance	Noise Reducing		Light Reflectance	Recycled Material Content
							NRC	CAC		
954	24 x 24 x 3/4	 Tegular	Prelude® 15/16-in Grid	Class A	Superior	Superior	0.70	35	0.85	67%

PACKAGING GUIDE

Item #	Dimensions (Inches)	SF Per Ctn	Pcs/Ctn	Lbs/Ctn	Ctns Per Pallet	Layers Per Pallet	Warranty
954	24 x 24 x 3/4	48	12	51	36	9	10/30-Year

TECHLINE: 1 877 ARMSTRONG (276-7876)
techline@armstrongceilings.com

ceiling.com



Safety Data Sheet

Product Identifier: Mineral Fiber Acoustical Ceiling Tile and Wall Panels (Class A) #1

Section 1 - IDENTIFICATION

Material Name: Mineral Fiber Acoustical Ceiling Tile and Wall Panels (Class A) #1

Chemical Family

Man-made vitreous fiber ceiling tile

Recommended Use

acoustical ceiling tiles

Restrictions on Use

None known.

Manufacturer Information

Armstrong World Industries
2500 Columbia Ave.
Lancaster, PA 17603
In Canada:
255 Montpellier Blvd.
St. Laurent, Quebec
Canada N4N 2G3

Phone #: 877-276-7876
Email: techline@armstrongceilings.com
Emergency #: 1-800-255-3924 (ChemTel)
www.armstrongceilings.com

Section 2 - HAZARD(S) IDENTIFICATION

Classification in accordance with 29 CFR 1910.1200.

Not classified as hazardous

GHS LABEL ELEMENTS

Symbol(s)

None

Signal Word

None

Hazard Statement(s)

None



Safety Data Sheet

Product Identifier: Mineral Fiber Acoustical Ceiling Tile and Wall Panels (Class A) #1

Precautionary Statement(s)

During the installation be certain that the work site is well ventilated and avoid breathing dust. Avoid contact with skin or eyes. Wear long-sleeve, loose fitting clothes, gloves and eye protection. Cut and trim with knife, razor or hand saw. Do not cut with power equipment unless either a dust collector is used on the equipment or local exhaust is used and a NIOSH approved respirator is worn to prevent overexposure to airborne silica. Exposures to respirable crystalline silica are not anticipated based on industrial hygiene testing on workers installing acoustical ceiling panels for an 8 hour work day and are not expected during the normal use of this product. However, actual levels must be determined by workplace hygiene testing. Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease (i.e., silicosis) and/or lung cancer. Panels do not release respirable dust in their installed state and therefore do not present any known health hazards when installed and properly maintained.

Prevention

Do not breathe dust, mist, fumes or vapors. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Wear protective gloves/clothing and eye/face protection. Obtain special instructions before use. Use only outdoors or in a well-ventilated area.

Response

IF exposed or concerned: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before re-use. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal

Dispose in accordance with all applicable regulations.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component	Percent
Not Available	Newsprint	Non-hazardous
130885-09-5	Perlite	Non-hazardous
65997-17-3	Fiberglass	<13%
1317-65-3	Ground Calcium carbonate	Non-hazardous
Not Available	Mineral-wool	Non-hazardous
9005-25-8	Starch	Non-hazardous
1332-58-7	Aluminum hydrous silicate: Kaolin clay	Non-hazardous
14808-60-7	Quartz (inbound)	0.1-1%

Section 4 - FIRST-AID MEASURES

Description of Necessary Measures

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Safety Data Sheet

**Product Identifier: Mineral Fiber Acoustical Ceiling Tile and Wall Panels
(Class A) #1**

Skin Contact

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before re-use.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

If a large amount is swallowed, get immediate medical attention.

Most Important Symptoms/Effects

Acute

eye irritation, skin irritation, respiratory tract irritation.

* * *Section 5 - FIRE-FIGHTING MEASURES* * *

Suitable Extinguishing Media

carbon dioxide, regular dry chemical, regular foam, water spray

Unsuitable Extinguishing Media

None known.

Special Hazards Arising from the chemical

Combustible dust. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Hazardous Combustion Products

Combustion: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Fire Fighting Measures

Keep away from sources of ignition - No smoking. Avoid inhalation of material or combustion by-products. Move material from fire area if it can be done without risk. Use extinguishing agents appropriate for surrounding fire. Dike for later disposal. Stay upwind and keep out of low areas.

Special Protective Equipment and Precautions for Firefighters

Firefighters should wear full-face, self-contained breathing apparatus and impervious protective clothing. Firefighters should avoid inhaling any combustion products.

* * *Section 6 - ACCIDENTAL RELEASE MEASURES* * *

Personal Precautions, Protective Equipment and Emergency Procedures

Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Wear appropriate personal protective equipment. Keep unnecessary people away, isolate hazard area and deny entry. Avoid contact with skin and eyes. Do not breathe dust. If respirable dusts are generated, respiratory protection may be needed. Collect spillage. In case of spillage, stop the flow of material and block any potential routes to water systems. Only personnel trained for the hazards of this material should perform clean up and disposal. Avoid release to the environment.

Safety Data Sheet

**Product Identifier: Mineral Fiber Acoustical Ceiling Tile and Wall Panels
(Class A) #1**

Methods and Materials for Containment and Cleaning Up

Keep out of water supplies, sewers and soil. In case of spillage, stop the flow of material and block any potential routes to water systems. Collect spilled material using mechanical equipment. Keep unnecessary people away, isolate hazard area and deny entry. Avoid dust generation and accumulation. Keep container tightly closed. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Use non-sparking tools and equipment.

*****Section 7 - HANDLING AND STORAGE*****

Precautions for Safe Handling

Do not handle until all safety precautions have been read and understood. Keep away from all ignition sources. Do not breathe dust. Use methods to minimize dust. Avoid contact with skin and eyes. Do not eat, drink, or smoke when using this product. Always wear recommended personal protective equipment. Wear personal protective clothing and equipment, see Section 8. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Take precautionary measures against static discharge. Dissipate static electricity during transfer by earthing (grounding and bonding) containers and equipment.

Conditions for Safe Storage, including any Incompatibilities

Store in a cool, dry place. Store in a well-ventilated place. Avoid contact with molten material. Keep separated from incompatible substances. Keep container tightly closed. Empty containers may contain product residue. Do not reuse empty containers without commercial cleaning or reconditioning. Store and handle in accordance with all current regulations and standards.

*****Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION*****

Exposure Limits

Follow all applicable exposure limits. Minimize dust generation and accumulation.

Component Exposure Limits

Fiberglass (65997-17-3)

ACGIH: 1 fiber/cm³ TWA (respirable fibers: length >5 µm, aspect ratio ≥3:1)

NIOSH: 3 fiber/cm³ TWA (fibers ≤ 3.5 µm in diameter and ≥ 10 µm in length); 5 mg/m³ TWA (total, related to Glass wool fiber)

Ground Calcium carbonate (1317-65-3)

OSHA: 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)

NIOSH: 10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust)

Starch (9005-25-8)

ACGIH: 10 mg/m³ TWA

OSHA: 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)

NIOSH: 10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust)

Aluminum hydrous silicate: Kaolin clay (1332-58-7)

ACGIH: 2 mg/m³ TWA

OSHA: 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)

NIOSH: 10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust)

Quartz (14808-60-7)

ACGIH: 0.025 mg/m³ TWA (respirable fraction)

NIOSH: 0.05 mg/m³ TWA (respirable dust)

Safety Data Sheet

**Product Identifier: Mineral Fiber Acoustical Ceiling Tile and Wall Panels
(Class A) #1**

Appropriate Engineering Controls

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust ventilation system. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of these product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.

Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Use only appropriately classified electrical equipment and powered industrial trucks.

Individual Protection Measures, such as Personal Protective Equipment

Eyes/Face Protection

Wear splash resistant safety goggles with a faceshield.

Skin Protection

Wear appropriate chemical resistant clothing.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Respiratory Protection

A NIOSH approved respirator with organic vapor cartridges and N95 filters may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid	Appearance:	fibrous forms
Color:	various colors	Physical Form:	solid
Odor:	None	Odor Threshold:	Not available
pH:	Not available	Melting Point:	Not available
Boiling Point:	Not available	Flash Point:	Not available
Decomposition:	Not available	Evaporation Rate:	Not available
OSHA Flammability Class:	Not available	Vapor Pressure:	Not available
Vapor Density (air = 1):	Not available	Density:	Not available
Specific Gravity (water = 1):	Not available	Water Solubility:	Insoluble
Log KOW:	Not available	Coeff. Water/Oil Dist:	Not available
Auto Ignition:	Not available	Viscosity:	Not available
VOC:	Not available	Volatility:	Not available
Molecular Formula:	Not available		

Section 10 - STABILITY AND REACTIVITY
--

Reactivity

None known.

Chemical Stability

Stable at normal temperatures and pressure.

Safety Data Sheet

**Product Identifier: Mineral Fiber Acoustical Ceiling Tile and Wall Panels
(Class A) #1**

Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials. Avoid generating dust. Avoid contact with molten material.

Incompatible Materials

Not available

Hazardous Decomposition

Combustion: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Section 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity

No information available for the product. See component data.

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Quartz (14808-60-7)

Oral LD50 Rat 500 mg/kg

Information on Likely Routes of Exposure

Inhalation

Causes respiratory tract irritation.

Ingestion

No information on significant adverse effects.

Skin Contact

Causes skin irritation.

Eye Contact

Causes eye irritation.

Immediate Effects

eye irritation, skin irritation, respiratory tract irritation.

Medical Conditions Aggravated by Exposure

No data available.

Irritation/Corrosivity Data

Causes eye irritation, skin irritation, and respiratory tract irritation.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Germ Cell Mutagenicity

No information available for the product.

Carcinogenicity

Component Carcinogenicity

Fiberglass (65997-17-3, biosoluble)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans (related to Glass wool fiber)

Safety Data Sheet

**Product Identifier: Mineral Fiber Acoustical Ceiling Tile and Wall Panels
(Class A) #1**

IARC: Group 3 (not classifiable)

NTP: Not classified

OSHA: Not classified

Starch (9005-25-8)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Aluminum hydrous silicate: Kaolin clay (1332-58-7)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Quartz (14808-60-7, respirable size)

ACGIH: A2 - Suspected Human Carcinogen

IARC: Monograph 100C [2012]; Monograph 68 [1997] (Group 1 (carcinogenic to humans))

NTP: Known Human Carcinogen

OSHA: Present

Reproductive Toxicity

No information available for the product.

Specific Target Organ Toxicity - Single Exposure

No target organs identified.

Specific Target Organ Toxicity - Repeated Exposure

lung damage

Aspiration Hazard

No data available.

*****Section 12 - ECOLOGICAL INFORMATION*****

Ecotoxicity

No information available for the product.

Persistence and Degradability

No information available for the product.

Bioaccumulation

No information available for the product.

Mobility

No information available for the product.

*****Section 13 - DISPOSAL CONSIDERATIONS*****

Disposal Methods

Dispose in accordance with all applicable regulations. Regulations vary. Consult local authorities before disposal.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Disposal of Contaminated Packaging

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

*****Section 14 - TRANSPORT INFORMATION*****

US DOT Information

Not regulated as a hazardous material.

TDG Information

No Classification assigned.

Marine Pollutant

No component(s) of this material is specifically listed in the IMDG Code as an identified marine pollutant.

Safety Data Sheet

**Product Identifier: Mineral Fiber Acoustical Ceiling Tile and Wall Panels
(Class A) #1**

*****Section 15 - REGULATORY INFORMATION*****

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Fiberglass	65997-17-3	No	No	Yes	No	No
Ground Calcium carbonate	1317-65-3	No	Yes	Yes	Yes	Yes
Starch	9005-25-8	No	Yes	Yes	No	Yes
Aluminum hydrous silicate: Kaolin clay	1332-58-7	No	Yes	Yes	Yes	Yes
Quartz (inbound)	14808-60-7	No	Yes	Yes	Yes	Yes

Canadian Classification

This product has been classified in accordance with the criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

Canadian WHMIS Ingredient Disclosure List (IDL)

There are no components listed on the Ingredients Disclosure List.

Canada-WHMIS

WHMIS CLASSIFICATION: Not applicable.

Chemical Inventory Listings

Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
Perlite	130885-09-5	No	No	No	No	No	No	Yes	Yes	No
Fiberglass	65997-17-3	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Ground Calcium carbonate	1317-65-3	Yes	NSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Starch	9005-25-8	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Aluminum hydrous silicate: Kaolin clay	1332-58-7	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Quartz (inbound)	14808-60-7	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

*****Section 16 - OTHER INFORMATION*****

Summary of Changes

New SDS: 06/12/2013

NFPA Ratings: Health: 2 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Safety Data Sheet

**Product Identifier: Mineral Fiber Acoustical Ceiling Tile and Wall Panels
(Class A) #1**

Key / Legend

ACGIH = American Conference of Governmental Industrial Hygienists; AU = Australia; BOD = Biochemical Oxygen Demand; C = Celsius; CA = California; CAN = Canada; CAS = Chemical Abstract Service; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; CFR = Code of Federal Regulations; CN = Canada; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Canadian Domestic Substance List; EPA = Environmental Protection Agency; EU = European Union; IARC = International Agency for Research on Cancer; IDL = Ingredient Disclose List; IDLH = Immediately Dangerous to Life and Health; JP = Japan; KR = Korea; LC50 = Lethal Concentration; LD50 = Lethal Dose; LEL = Lower Explosive Limit; LMPE-CT = Mexico STEL equivalent; LMPE-PPT = Mexico TWA equivalent; MSDS = Material Safety Data Sheet; NIOSH = National Institute of Occupational Safety and Health; NJTSR = New Jersey Trade Secret Registry; NTP = National Toxicology Program; NZ = New Zealand; OEL = Occupational Exposure Limit; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit; PH = Philippines; RQ = Reportable Quantity; SARA = Superfund Amendments Act; SDS = Safety Data Sheet; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substance Control Act; TWA = Time Weighted Average; UEL = Upper Explosive Limit; UN = United Nations; US = United State; WHMIS = Workplace Hazardous Materials Information System

Other Information

Reasonable care has been taken in the preparation of this information; however, the manufacturer makes no warranty whatsoever including the warranty of merchantability, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental, consequential, or other such damages resulting from its use or misuse. Disclaimer: Supplier gives no warranty whatsoever, including the warranties of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser shall determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental, consequential or any other damages arising out of the use or misuse of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights.



Armstrong® Prelude® ceiling suspension system combines superior durability and exceptional stability with installation ease. Available with XL and ML end details, this 15/16-in grid is the perfect installation system for a wide variety of standard and decorative ceiling options.

Installing ceiling panels in our Prelude ceiling suspension system allows for easy access to pipes, ducts and wiring. Choose from a variety of stylish ceiling panels with various edge details to add a sense of beauty to any room in your home.

FEATURES & BENEFITS

- Heavy-duty performance and intermediate-duty performance main beams available
- Meets all building codes for non-residential construction
- Made from hot-dipped galvanized steel for long-term performance
- SuperLock™ clip on main beam creates a secure connection
- PeakForm® profile increases strength and stability for improved performance during installation



INSTALLATION



1 Install wall moldings



2 Suspend main beams with hanging hardware



3 Install cross tees



4 Install ceiling panels

SPECIFICATIONS

Component	Item #	Description*	Lbs/Lf on 4-ft span	Length	Web Height	Flange Width	Pcs/Ctn	Lf/Ctn
Main Beam	7301WH	12-ft Heavy-Duty MB – White	16.50	144-in	1-11/16-in	15/16-in	20	240
Main Beam	7300XRWH	12-ft Intermediate-Duty MB – White	12.80	144-in	1-11/16-in	15/16-in	20	240
Cross Tee	ML7343WH	4-ft Hook Cross Tee – White	–	48-in	1-1/2-in	15/16-in	60	240
Cross Tee	ML7323WH	2-ft Hook Cross Tee – White	–	24-in	1-1/2-in	15/16-in	60	120
Cross Tee	XL7348RWH	4-ft Stab Cross Tee – White	–	48-in	1-3/8-in	15/16-in	60	240
Cross Tee	XL7328RWH	2-ft Stab Cross Tee – White	–	24-in	1-3/8-in	15/16-in	60	120
Wall Molding	7800RWH	12-ft Wall Molding – White	–	144-in	7/8-in	7/8-in	30	360

* Also available in black.

Use Prelude® suspension system with Armstrong high performance ceiling panels for a 30-year limited system warranty.

Visit ceilings.com for a ceiling materials estimator, installation instructions, videos, and more.

TECHLINE: 1 877 ARMSTRONG (276-7876)

techline@armstrongceilings.com

ceilings.com

Drop Ceiling Installation Overview

1



Install wall molding

2



Suspend main beams with hanger wire or QuickHang™ hardware* (shown above: QuickHang hooks and brackets)

3



Install cross tees

4



Install ceiling panels



*For residential use only

For additional information on QuickHang products,
visit [ceilings.com/quickhang](https://www.armstrongceilings.com/quickhang)

How to Install Your Armstrong® Suspended Ceiling



SAFETY TIPS:

- Safety glasses and gloves are recommended to be worn during installation. Metal grid components can be sharp.
- When working overhead, make sure your work area is clear of obstructions and that your ladder is stable.

IMPORTANT INFORMATION:

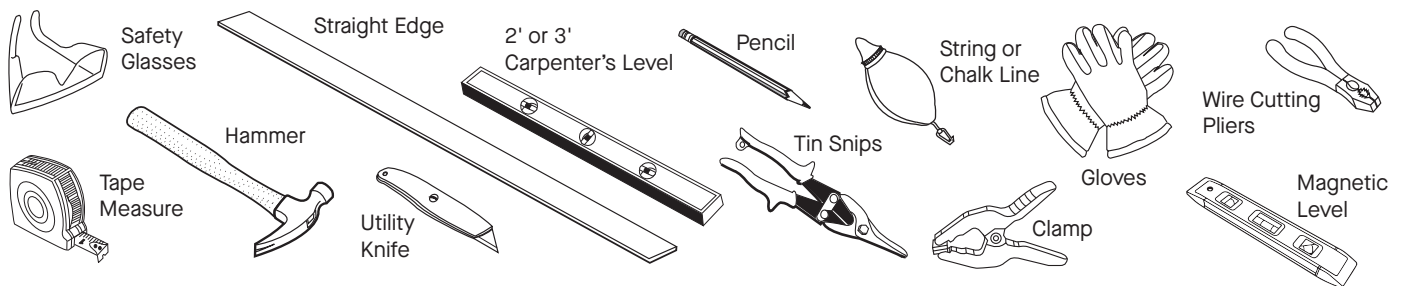
- Store and install panels in areas with temperature and humidity ranges that meet specific product warranty requirements.
- Remove panels from the cartons 24 hours before installation and allow them to adjust to normal interior conditions of the area where installation will take place.
- Never install ceiling panels below an existing ceiling that contains embedded radiant-heat coils.
- Do not apply loose fill or batt insulation so that it rests directly on the panels.
- Keep hands clean to avoid smudges on the finished ceiling.
- Always cut mineral fiber or fiberglass ceiling panels face up with a sharp utility knife.
- Main beams should be installed perpendicular to the joists.
- Main beams are typically installed on 4' centers. If your room configuration is unusual, you may require additional components.
- To allow for ceiling tile installation and accessibility, the minimum drop is 3" with traditional hanger wire or 2.5" with QuickHang™ grid hooks. *(QuickHang instructions are notated by a gray background)*

NOTE: QuickHang hooks and brackets are available through select retailers. Visit ceilings.com/stores for where to buy.

- Installations with light fixtures will likely require additional clearance and support. Consult the light manufacturer's instructions for details.
- When installing below an existing drywall ceiling, a minimum 4" drop is required to install panels. Joists will need to be located and marked.

NOTE: QuickHang hardware cannot be used below drywall ceilings.

TOOLS NEEDED TO INSTALL YOUR CEILING



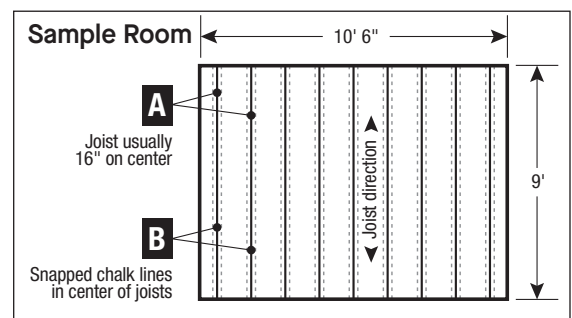
PLANNING YOUR ARMSTRONG CEILING

Main beams typically run perpendicular to the joists. If you have an existing drywall ceiling you will need to locate and identify the joist direction.

LOCATE HIDDEN JOISTS TO INSTALL WIRE FASTENERS

Use either a stud finder or locate hidden joists by tapping on the ceiling until you hear a solid thud. Drive a nail in here. Repeat this to locate other joists and determine their direction. Mark the joist locations with chalk lines.

- Find joists **(A)**.
- Drive nails to find exact center line of joists.
- Snap chalk line for each joist **(B)**.



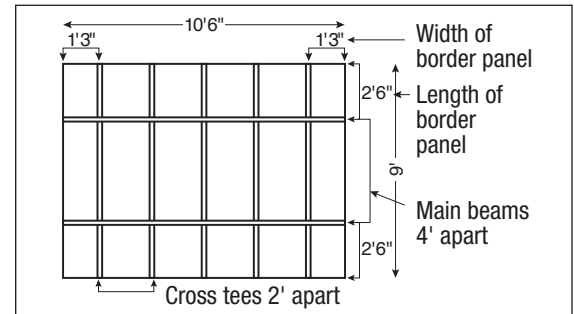
How to Install Your Armstrong® Suspended Ceiling



SAMPLE PANEL LAYOUT

Determine panel layout

For best appearance, border panels should be the same size on the opposite sides of the room and as large as possible. Use your room dimensions and follow the formula in the worksheets below.



Sample worksheets using 2' x 4' panels in a 9' x 10' 6" room

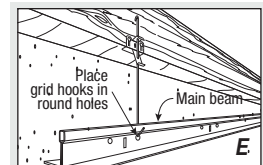
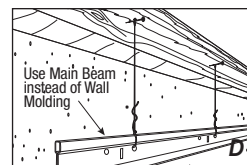
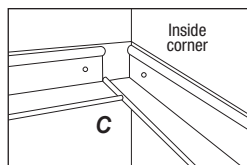
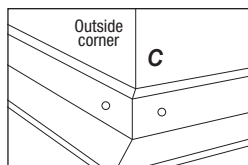
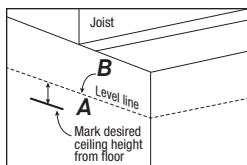
Determine length of border panels	
9'	Room length
÷ 4'*	Panel length
(2) 4' panels + 1 foot remainder	Tiles across room
1'	Remainder
+ 4'*	Panel length
5'	Tile borders (both sides)
5'	Number of panels
÷ 2	Border panel length
2' 6"	

Determine width of border panels	
10' 6"	Room width
÷ 2'	Panel width
(5) 2' panels + 6 inches remainder	Tiles across room
6"	Remainder
+ 2'	Panel width
2' 6"	Tile borders (both sides)
2' 6"	Number of panels
÷ 2	Border panel width
1' 3"	

*Use 4' for 2' x 4' panel, 2' for 2' x 2' panel

STEP 1: INSTALL WALL MOLDING

- Mark the desired height of your new ceiling on the wall (A).
- Add the height of the Wall Molding above the desired ceiling height and mark a level line around 3 walls (B).
- Use a string line to mark the 4th wall.
- Fasten wall molding to the wall studs with appropriate fastener. (C).
- If nailing molding directly to wall is not possible (for example, a solid concrete or stone wall), hang a section of main beam next to the wall as a substitute for regular wall molding using hanger wire (D) or the QuickHang™ hardware (E).



Using Hanger Wire

Using QuickHang Grid Hooks

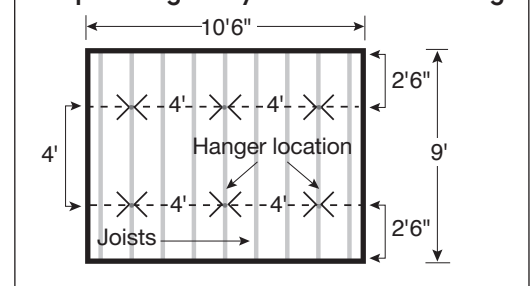
STEP 2: INSTALL HANGER WIRE OR QUICKHANG™ GRID HOOKS

IMPORTANT: The first row of main beams in a 2' x 4' panel installation should be the border panel size from the wall.

In a 2' x 2' panel installation, the first main beam can be the border panel size or the border panel + 24" from the wall.

EXAMPLE: See Sample Room Hanger Layout – 2' 6" from the wall for a 2' x 4' panel. QuickHang brackets should not be spaced more than 4' apart in any direction.

Sample Hanger Layout for 2' x 4' Ceilings



How to Install Your Armstrong® Suspended Ceiling

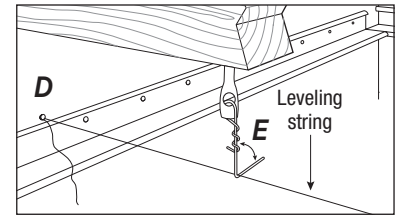
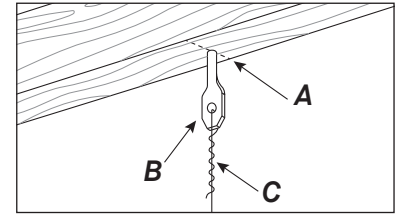


Traditional Hanger Wire

- Snap Chalk Line for Main Beams 4' Apart **(A)**.
- Screw in Wire Fasteners 4' Apart **(B)**.
- Wrap hanger wire securely around itself 3 times **(C)**.

NOTE: Additional hanger wires may be needed to support light fixtures.

- Measure up 7/8" from the bottom of the molding. Drive nail into wall just above molding. Do the same on other side of room. Stretch a string from nail to nail along a row of wires **(D)**.
- Swing hanger wires over to string and bend each one at 90° where they touch the string **(E)**.
- Stretch additional strings to pre-bend other hanger wires, to help level entire ceiling.
- Remove Leveling String(s) after pre-bending wires.



QuickHang™ Hardware

FOR RESIDENTIAL USE ONLY:

NOTE: The QuickHang™ hardware is designed to work with solid wood and engineered wood joists in residential ceiling applications. QuickHang hardware allows for ceiling drops from 2.5" to 6" with 6" grid hook kits or 2.5" to 12" with 12" grid hook kits, below the bottom of the joists. QuickHang hardware is not for use on finished drywall ceilings.

SAFETY TIPS

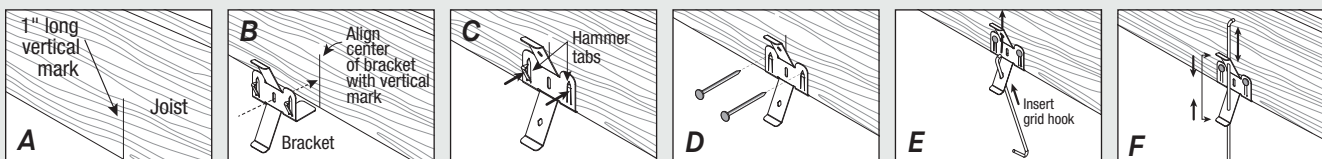
- Do not cut QuickHang hooks. If the hook needs to be shortened due to an obstruction, the top portion can be bent by hand or with pliers.

TIPS: Measure and mark your joists prior to installation. Use a string line or chalk line to align marks perpendicular to joists across the room.

How to Install the QuickHang™ Hooks and Brackets

- Hang your string line or snap your chalk line to position your main beams 4' apart.
- Make a 1" long vertical mark up the side of each joist where a bracket will be located **(A)**.
- Use the center hole in the brackets to line the brackets up with your marks **(B)**.
- Hammer in the 2 tabs for a temporary hold **(C)**.
- Nail the bracket to the joist through the two openings above the hammer tabs with the nails included in the kit **(D)**.
 - OPTIONAL: You can also secure the bracket to the joist with a single #5 Wood Screw through the center hole (screws not included in kit hardware.)
- With the bracket securely attached to the joist, insert the grid hook using the diamond-shaped holes in the brackets. Thread the small end of the hook, from the back, through the lower hole **(E)**. Push the hook up and rotate to thread through the upper hole, squeezing the spring tabs to allow the wire to go through **(F)**.

IMPORTANT: Do not cut QuickHang hooks. If the hook needs to be shortened due to an obstruction, the top portion can be bent by hand or with pliers.



- Turn all hooks in the same direction, parallel to the joists.
- Set the hooks at about the same height; the bottom of the hooks should align with the top of the wall molding.
- To adjust the height of the hook, squeeze the upper and lower spring tabs while lifting or lowering the hook.

NOTE: You will do final leveling once all of the grid is installed.

How to Install Your Armstrong® Suspended Ceiling



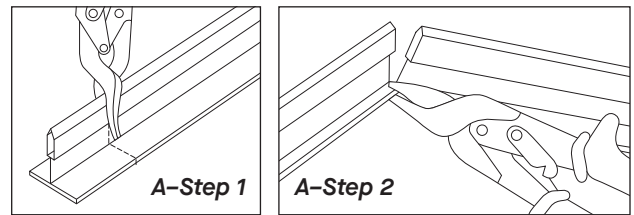
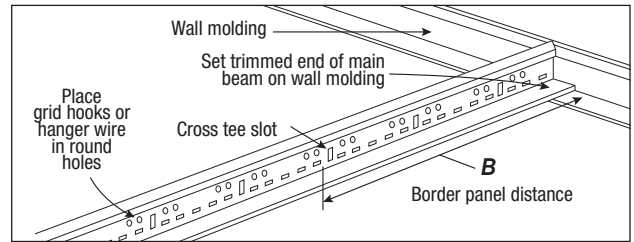
STEP 3: INSTALL GRID

Prepare and Hang Main Beams

- To prepare the first main beam, trim the end of the main beam so that a cross tee slot on the main beam is the border panel distance from the wall (**B**). (This creates the proper border tile opening.)

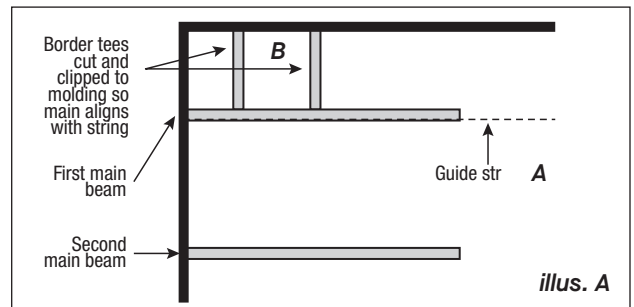
TIP: Cut the top of the grid first with tin snips and then bend the grid open and cut the face of the grid (**A**).

- Place the cut end of the first main beam on the wall molding and using the round holes in the grid, hang main beams on the hanger wire or hook perpendicular to joists. For installations using traditional hanger wire, after inserting the wire through the round hole, bend it up and wrap the wire around the hanger wire around itself three times. Do this same step with the next main beam running parallel 4' away along the wall.



Prepare and Cut Border Cross Tees

- Stretch a string line from one end of the room to the other below the wall molding and along the edge furthest from the wall of the main beams (**A**). (*illus. A*)
- Install your first cross tee in the main beam cross tee slot that is your border panel distance from the wall.
- Hold the end of your border cross tee against the wall (**B**). (*illus. A*) Mark and cut the cross tee where it crosses the string line.
- Insert the uncut end of the cross tee into the main beam through the rectangular hole and rest the cut end of the tee on the wall molding.
- Cut the second border cross tee to length and insert it.
- Temporarily fasten the cross tees to the wall molding with a clamp or tape so they do not move.

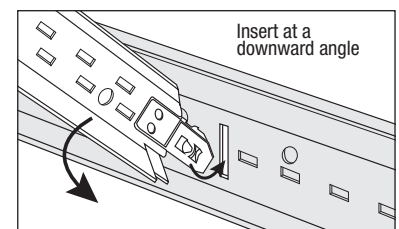
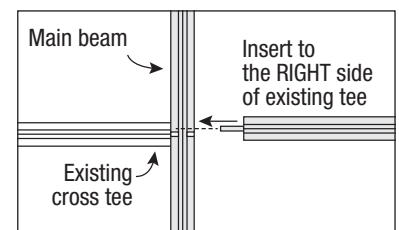
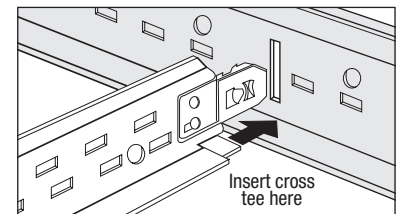


Squaring the Grid

To achieve the best end results, it is important to make sure your grid is square at this point in the installation. This will allow you to adjust if changes are required.

NOTE: When connecting two cross tees in the same rectangular hole of a main beam, insert the second tee into the slot by passing on the **right side** of the already installed cross tee.

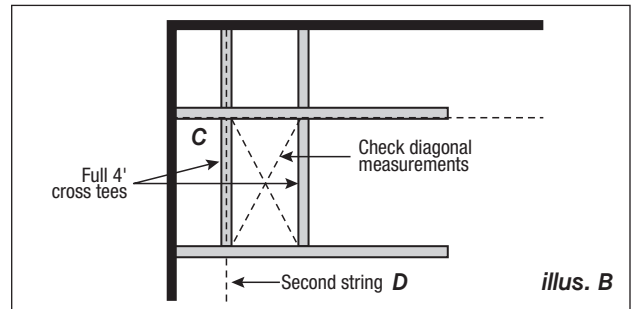
TIP: Installing cross tees is easier if the tee is inserted into the rectangular slot at a downward angle from above the grid plane. Listen for an audible click to ensure a good connection.



How to Install Your Armstrong® Suspended Ceiling



- Install two 4' cross tees between the two main beams in line with the first two border tees (C). (illus. B)
- To check that your grid is square, measure across the diagonals of the 2' x 4' opening. The measurements will be the same if the grid is square. If the measurements are not the same, trim one of the mains further until the diagonals are equal. (illus. B)



Installing Remaining Grid & Leveling the System

- Complete the first two rows of main beams by hanging main beams from the hooks and joining their ends together. Listen for an audible click to ensure a good connection. (illus. C and illus. D). At the far end of each of these first two rows, you'll need to cut both main beams to rest on the wall molding.

TIP: Use the left-over ends of the cut main beams to start additional rows of main beams.

- Cut additional border cross tees between the wall and first row of main beams.
- If you have additional rows of main beams to install, stretch a second string from one side of the room to the other aligning it with the first 4' cross tee as shown (D). (illus. B)
- This second string will be your guide for cutting the remaining rows of main beams. Just measure from the end wall to the string to determine the distance for the first rectangular cross tee slot you will use.

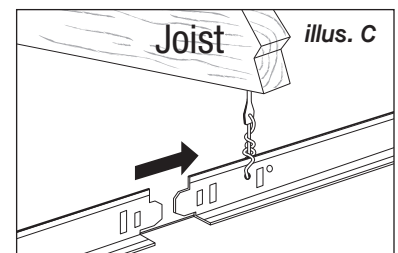
NOTE: You must line up cross tee slots for the grid to be square!

- Install all remaining main beams and 4' cross tees.
- Measure and cut border cross tees along the last wall.
- Now that your grid is installed, it's time to check or do final leveling.

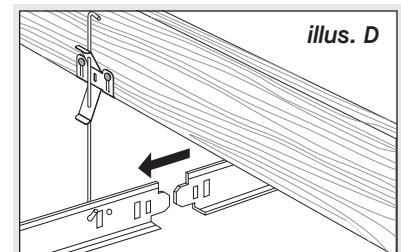
Final Leveling

- Start by attaching a magnetic level to the bottom of a main beam located in a corner of the room. Note: Main beam should rest on wall molding.
- Systems installed with traditional hanger wire should be level already. If additional leveling is needed, untwist the hanger wires, raise or lower the grid slightly, re-bend and twist the wires.
- Systems using QuickHang™ hardware, hold the main beam, squeeze the spring tabs on the QuickHang bracket to allow the hook to slide up or down (F). Releasing the tab will lock the hook in place.
- Working from the corner of your room, check and level cross tees and main beams until the system is level.

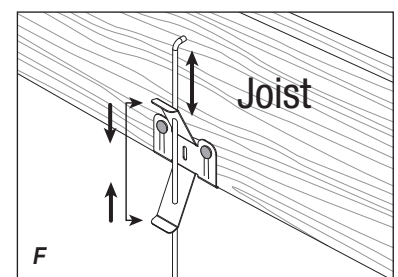
TIP: For additional guidance, see our video online at ceilings.com/installation



Traditional Wire Hanger



QuickHang Grid Hooks



How to Install Your Armstrong® Suspended Ceiling



STEP 4: INSTALL CEILING PANELS

Installing Panels

- Lift panel at angle up through the grid; drop into place **(A)**.

TIP: If there's an obstruction in the area where you are inserting a ceiling tile, you may need to lift the ceiling tile through an adjacent opening and gently move it across the back of the grid into place.

- Trim border panels using a straight edge; panels should be cut face side up **(B)**. For tegular tiles, you will need to cut the edge that's resting on the wall molding to allow it to lay flat.

Cutting "Tegular"/"Recessed Grid" ceiling border panels

- Trim tegular edge border panels to the same dimensions as for flat panels. The tegular edge detail must now be cut into the panel.
- Set the panel into the grid. Draw a light pencil line on the panel using the wall molding as a guide **(C)**.
- Remove the panel. Use a sharp utility knife and straight edge to cut halfway through the panel from the face side along the pencil line **(D)**.
- Lay the utility knife on its side next to the panel and, with the panel face up, cut in at blade height for a reveal cut **(E)**.
- Remove the cut edge. If the cut edge of the panel is visible, paint with a flat white latex paint.
- Fit the panel into the grid.

For additional information on installing suspended ceilings, please visit our website at ceilings.com/installation or call Techline at 1-877-ARMSTRONG (276-7876).

LIMITED WARRANTY

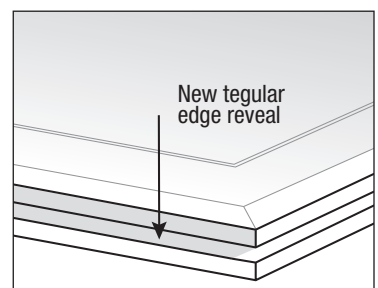
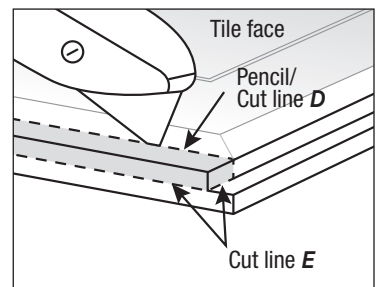
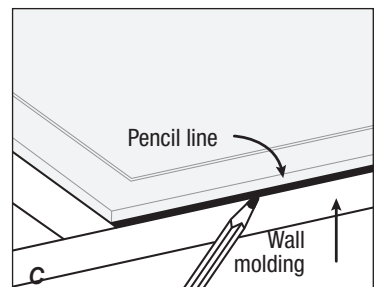
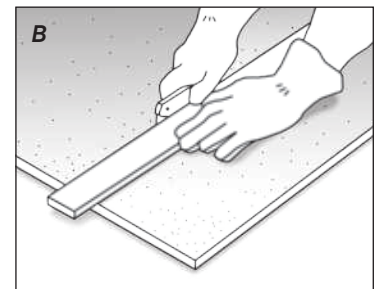
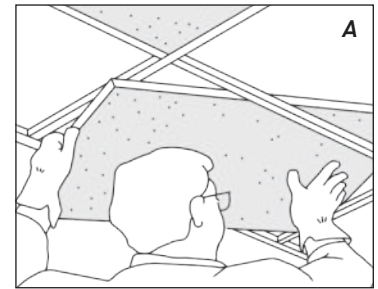
For warranty information, please visit ceilings.com/warranty

Precautionary Measures: During the installation, be certain that the work site is well ventilated and avoid breathing dust. Avoid contact with skin or eyes. Wear long-sleeve, loose fitting clothes, gloves, and eye protection. Cut and trim with knife, razor, or hand saw. Do not cut with power equipment unless the equipment has an attached dust collector. The work site air quality should be assessed and if conditions require, a NIOSH approved respirator should be worn.

This product may contain small levels of crystalline silica. Exposures to respirable crystalline silica are not anticipated based on industrial hygiene testing on workers installing acoustical ceiling panels for an 8-hour work day and are not expected during the normal use of this product. Specific worksite conditions must be taken into consideration to determine if workplace industrial hygiene testing is necessary. Prolonged and repeated exposure to airborne crystalline silica can result in lung disease and/or lung cancer. Panels do not release respirable dust in their installed state. **For additional information, refer to the Safety Data Sheet at armstrongceilings.com**

First Aid Measures: If eye or skin contact occurs, flush with plenty of water for at least 15 minutes and remove contaminated clothing. After installing material, wash with warm water and mild soap. Wash work clothes separately from other clothing. Rinse washer thoroughly.

Armstrong World Industries, Inc. 2500 Columbia Ave, Lancaster, PA 17603; 255 Montpelier Boul. Quebec N4N2G3 1-877-276-7876



Armstrong®
World Industries

Cleaning Guidelines:

Armstrong® Ceiling and Grid Products



Effective December 2020

Due to differences in the finishes and textures of our products, different cleaning methods are required. Listed below are the products by product family or specific product name. The products below have a letter or letters that refer to the appropriate cleaning method. Cleaning methods are found on page 2.

Product or Product Family	Item Number	Cleaning Method
AcoustAffix® Family	2012, 2012WH, 2012BL	H
Brightex™ with AirGuard™	1231	A or B
Classic Fine Textured	954	A
Easy Elegance™ Family	Various	B, C, D, E
Fiberglass Family	403, 404, 410, 416, 420	B
Fine Fissured™ Family	922, 928, 932	A or B
Fine Fissured Black	1728BL	F
Fluted	1203	A or B
Lumawash® Family	972, 973	G
Prelude® and Suprafine® Grid Systems	Various	C
QuickHang™ Installation Kits	6362WH, 6362BL, 6364WH	C
Raised Panel™	1201	A or B
Random Textured Family	933, 934, 935	A or B
Sahara™ Family	271, 273, 276, 9768, 9769	A
Sand Pebble™	269	A or B
Scalloped	1202	A or B
Scored	9767	A
Single Raised Panel Family	1205, 1210	A or B
SuperTuff™	241	A or B
Tango	1206	A or B
Textured Family	942, 949	A or B
Tincraft™ Family	8008, 8009	A or B
WoodHaven™ Family	Various	D
Yuma White® Family	490, 491, 492, 493	A or B

Cleaning Guidelines:

Armstrong® Ceiling Panels & Suspension Systems Products



Effective December 2020

Cleaning Methods

- A – A commercial vacuum system with 100-inches/H₂O vacuum capacity is recommended for removing dust particles. The vacuum system cleaning attachment should be a 3" diameter wand with natural hair bristle. A HEPA vacuum filter is recommended to minimize air borne dust during the cleaning process. Care must be taken while vacuuming to avoid excessive pressure. Use a blotting action to minimize potential loss of surface texture.
- B – Using a damp cloth or sponge with a mild detergent, wipe lightly on surface of board to remove dirt.
- C – Use a mild household cleaner like fantastik® and a soft cloth. Before cleaning the grid, remove the ceiling panels to prevent cleaning solution or dirt from getting on the panels.
- D – Abrasive or strong chemical detergent should not be used. A mild detergent diluted in warm water, applied with a soft cloth, rinsed and finally wiped off with a chamois will maintain the ceiling in good condition. Oily or stubborn stains, if not removed by washing, can be wiped with products like fantastik®, but care is necessary to avoid affecting the gloss level of the paint finish.
- E – Use a clean, dry, soft, white cloth to wipe off any dirt or greasy fingerprints. If this does not clean the panel, use a damp, clean, soft, white cloth or sponge with a mild detergent to wipe the panel.
- F – Use a feather duster or vacuum to remove dust from colored products (See note***).
- G – Use a damp cloth, sponge, or soft-bristled brush with water and mild, clear detergent or disinfectant. Gently wipe or scrub the panel surface with medium pressure. Lightly spray panels with a clear cleaning agent or clear disinfectant and wipe clean with a dry cloth.
- H – Use a clean, dry, soft, white cloth to wipe off any dirt or greasy fingerprints. If this does not clean the panel, use a damp, clean, soft, white cloth.

– Where "mild, clear detergent" is referenced use a clear dishwashing liquid.

– Where "clear disinfectant" is referenced use sodium hypochlorite, isopropyl alcohol, hydrogen peroxide, or quaternary ammonium.

– For greasy stains use products like clear fantastik®

*** We do not recommend the use of any cloth either wet or dry because using pressure (rubbing) to clean the finish will result in "burnishing" (or polishing) of the color, which will appear like streaking because of the gloss level change.

3 / 56 (FL / FS)

3FL

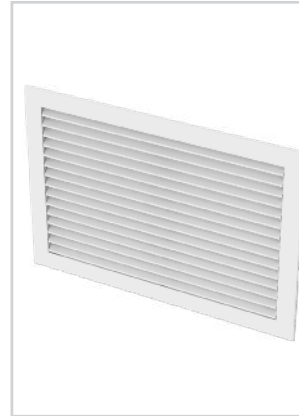
- ¾" blade spacing
- 45° fixed deflection
- Reinforced corners
- Blades parallel to the long dimension
- Extruded aluminum border
- MRI compatible

3FS

- Same as 3FL with blades parallel to the short dimension

56FL

- ¾" blade spacing
- 0° fixed deflection
- Reinforced corners
- Blades parallel to the long dimension
- Extruded aluminum border



3 (FL / FS)



56 (FL / FS)

- MRI compatible

56FS

- Same as 56FL with blades parallel to the short dimension



metric sizes MRI compatible



See website for Specifications

- #8 x 1¼" Long Phillips Flat Head Sheet Metal Screws, Painted White
- Optional Steel or Aluminum Opposed-Blade Damper

MODELS:

45° Deflection Models

3FL
3FS

0° Deflection Models

56FL
56FS

FINISH:

Standard Finish - #26 White

OVERVIEW

¾" Blade Spacing / Aluminum

AeroBlade Return Grilles are the companion to AeroBlade Supply Grilles. Aeroblade grilles are available in steel or aluminum construction and various blade spacing options.

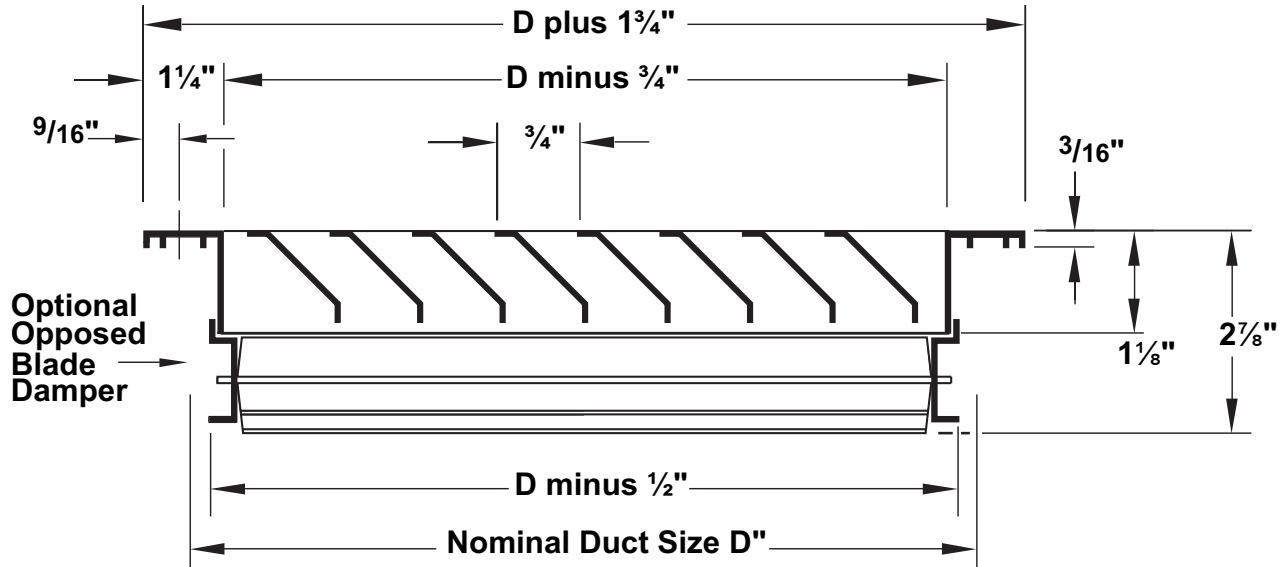
For Performance Data, please refer to page G38 for 3 (FL, FS) and page G40 for 56 (FL, FS)

PRODUCTS INCLUDE

- Material: Extruded Aluminum
- Available Border Types:
 - #1 - Surface Mount
 - #2 - Snap-In
 - #3 - Lay-In
 - #4 - Spline
- Countersunk Screw Holes

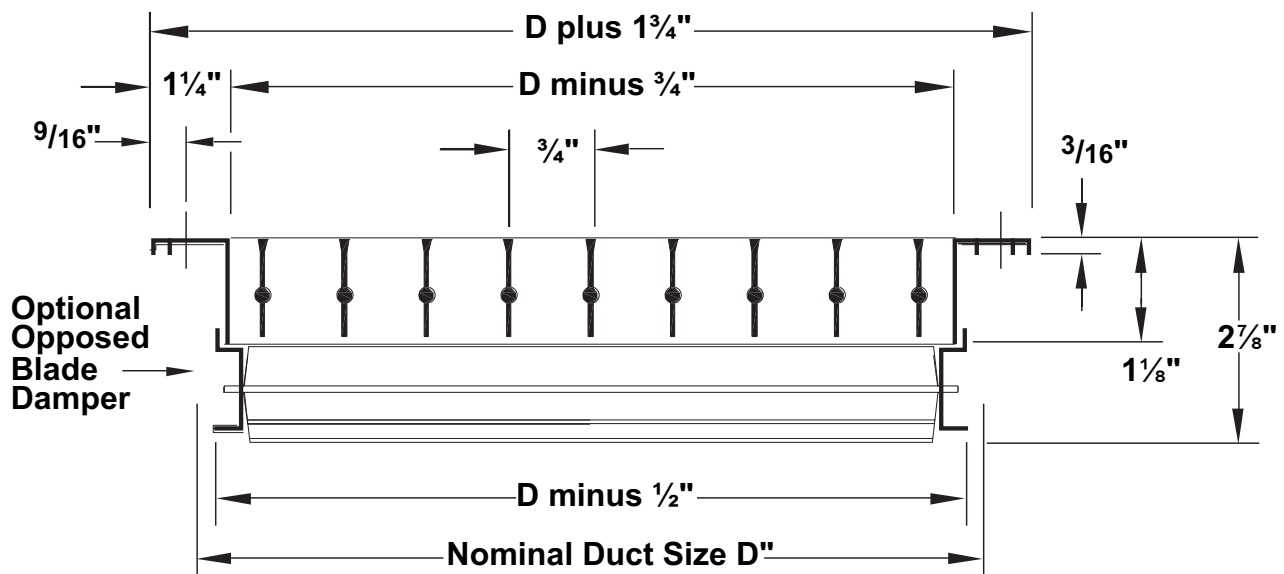
3, 56 (FL / FS) DIMENSIONS

45° Deflection Models: 3FL / 3FS - Border Type 1



Available sizes (D" x D") are 6 x 4 inches through 48 x 48 inches in 1" increments
Odd and fractional sizes are available at additional cost

0° Deflection Models: 56FL / 56FS - Border Type 1



Available sizes (D" x D") are 6 x 4 inches through 48 x 48 inches in 1" increments
Odd and fractional sizes are available at additional cost

Common Size Chart

MOST ECONOMICAL WAY TO SPECIFY TITUS GRILLES

How to use this Chart:

1. Determine desired grille size by reviewing grille performance pages within this catalog section
2. Use the following table, "Grille Dimensions" to locate the closest standard size to your desired grille
3. Review the performance data for the standard size selected
4. Repeat steps 1 through 3, if necessary

Grille Dimensions

	Width																					
Height	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
6	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
8	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
10	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
12	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
14	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
16	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
18	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
20	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
22	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
24	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
26	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
28	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
30	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
32	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
34	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
36	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
38	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
40	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
42	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
44	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
46	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
48	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded

Note: Shaded areas represent common sizes

FLAT PANELS

WITH COLOR PREFERENCE® & LUMEN BOOST™



ECO Series Flat Panels

ETi's patented Color Preference® Technology allows the installer to select the desired color temperature with the flip of a switch!

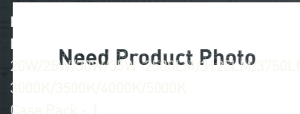
ETi Advantage

- ✓ DLC Premium
- ✓ Robust, lightweight construction
- ✓ Non-yellowing, UV-resistant lens
- ✓ Excellent aesthetics at an affordable cost
- ✓ 4 CCT Color Preference® & 4 step Lumen Boost™
- ✓ Even edge to edge light distribution
- ✓ Optional BBU, OC Sensor, or both pre-installed

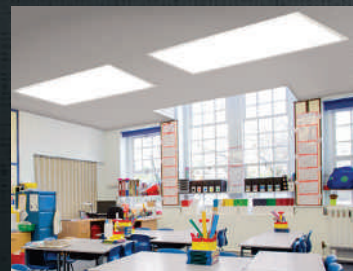
Installation Benefits

- Compact Recessed Driver box
- Easy Handling
- Ultra thin backlit design
- Easy-to-install replacement for lay-in troffers, baskets, and parabolic fixtures
- Pre-installed BBU Bracket
- Multiple conduit points allows multiple accessory installation options
- Earthquake Clips already installed

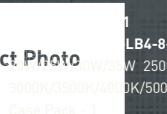
ECO16 1x4 Flat Panels w/ Lumen Boost and Color Preference®



Model # 64214102
Part # E16FP-14-LB4-8-CP4-MV-LVD-2PK
 20W/25W/30W/35W 2500LM/3125LM/3750LM/4375LM 120-277V
 3000K/3500K/4000K/5000K
 Case Pack - 2



ECO16 2x2 Flat Panels w/ Lumen Boost and Color Preference®



Model # 64222402
Part # E16FP-22-LB4-8-CP4-MV-LVD-2PK
 20W/25W/30W/35W 2500LM/3125LM/3750LM/4375LM 120-277V
 3000K/3500K/4000K/5000K
 Case Pack - 2

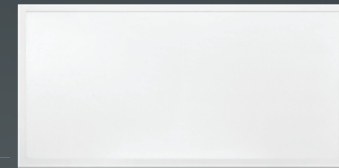
ECO16 2x4 Flat Panels w/ Lumen Boost and Color Preference®

Model # 64224301
Part # E16FP-24-LB4-8-CP4-MV-LVD-1PK
 35W/40W/45W/50W 4375LM/5000LM/5625LM/6250LM 120-277V
 3000K/3500K/4000K/5000K
 Case Pack - 1

Model # 64224302
Part # E16FP-24-LB4-8-CP4-MV-LVD-2PK
 35W/40W/45W/50W 4375LM/5000LM/5625LM/6250LM 120-277V
 3000K/3500K/4000K/5000K
 Case Pack - 2



ECO16 1x4 Flat Panels



ECO16 2x4 Flat Panels



ECO16 2x2 Flat Panels



PRE-INSTALLED BATTERY BACK UP UNITS, OCCUPANCY SENSOR OR BOTH OPTIONS

2-PACK Configurations (Base Fixture w/ Internal OC Sensor)

ECO16 1x4 Flat Panels
 Model # 64214102-I
 Part # E16FP-14-LB4-8-CP4-MV-LVD-OS-2PK

ECO16 2x2 Flat Panels
 Model # 64222402-I
 Part # E16FP-22-LB4-8-CP4-MV-LVD-OS-2PK

ECO16 2x4 Flat Panels
 Model # 64224302-I
 Part # E16FP-24-LB4-8-CP4-MV-LVD-OS-2PK

2-PACK Configurations (Base Fixture w/ BBU Installed)

ECO16 1x4 Flat Panels
 Model # 64214102-EM
 Part # E16FP-14-LB4-8-CP4-MV-LVD-EM-2PK

ECO16 2x2 Flat Panels
 Model # 64222402-EM
 Part # E16FP-22-LB4-8-CP4-MV-LVD-EM-2PK

ECO16 2x4 Flat Panels
 Model # 64224302-EM
 Part # E16FP-24-LB4-8-CP4-MV-LVD-EM-2PK

2-PACK Configurations (Base Fixture w/ BBU & Internal OC Sensor)

ECO16 1x4 Flat Panels
 Model # 64214102-I-EM
 Part # E16FP-14-LB4-8-CP4-MV-LVD-EMOS-2PK

ECO16 2x2 Flat Panels
 Model # 64222402-I-EM
 Part # E16FP-22-LB4-8-CP4-MV-LVD-EMOS-2PK

ECO16 2x4 Flat Panels
 Model # 64224302-I-EM
 Part # E16FP-24-LB4-8-CP4-MV-LVD-EMOS-2PK

FLAT PANEL ACCESSORIES

Model #	Part #	Description
70317101	SM-KIT-E16FP-22	ECO16 2x2 Flat Panel Surface Mount Kit (White)
70317102	SM-KIT-E16FP-24	ECO16 2x4 Flat Panel Surface Mount Kit (White)
70317103	SM-KIT-E16FP-14	ECO16 1x4 Flat Panel Surface Mount Kit (White)
70317201	SUSP-KIT-2C	2-Cable Suspension Mount Kit (max length 3'-0") for 2x2 & 1x4 panels
70317202	SUSP-KIT-3C	3-Cable Suspension Mount Kit (max length 3'-0") for 2x4 panel
70319201	RDM-KIT-E16FP-22	ECO16 2x2 Flat Panel Recessed Drywall Mount Kit (White), 38mm
70319202	RDM-KIT-E16FP-24	ECO16 2x4 Flat Panel Recessed Drywall Mount Kit (White), 38mm
70319203	RDM-KIT-E16FP-14	ECO16 1x4 Flat Panel Recessed Drywall Mount Kit (White), 38mm
N/A	HD03R	Handheld Remote Programmer for Internal Microwave OC Sensor (compatible w/ ECO16 series & 50242162 linear high bay)

STAY SHARP WITH ETi'S LED FLAT PANELS



ETi's LED flat panels keep office and commercial spaces looking bright thanks to high quality PMMA lenses that do not yellow over time. Compare ours to some of the dirt cheap flat panels and you'll literally see the difference in as little as one year! When other LED flat panels start to look dirty, dingy, and yellowed, ETi's flat panels will still have your space looking sharp and you seeing crystal clear.

- 100~277v
- Rated life: 50,000 hours
- 3500K, 4000K, and 5000K CCT
- Dimmable
- DLC qualified
- Suitable for use in Damp locations



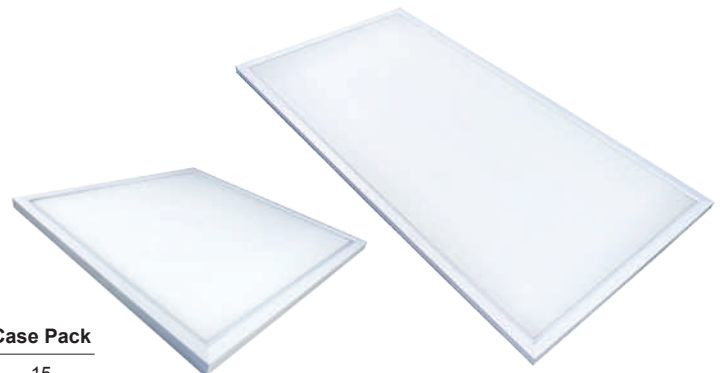
LED Flat Panels

Model #	Part #	Description	Wattage	Lumens	CCT	Input Voltage	Case Pack
64201131	FPE-22-40-835-MV-D	2'x2' Flat Panel, 0-10V Dimmable, Compatible with Battery Back-Up Accessory (DLC)	40	4000	3500	100-277	4
54320142	FPE-22-40-840-MV-D	2'x2' Flat Panel, 0-10V Dimmable, Compatible with Battery Back-Up Accessory (DLC)	40	4000	4000	100-277	4
54320162	FPE-22-40-850-MV-D	2'x2' Flat Panel, 0-10V Dimmable, Compatible with Battery Back-Up Accessory (DLC)	40	4000	5000	100-277	4
64201231	FPE-24-50-835-MV-D	2'x4' Flat Panel, 0-10V Dimmable, Compatible with Battery Back-Up Accessory (DLC)	50	5000	3500	100-277	2
54321142	FPE-24-50-840-MV-D	2'x4' Flat Panel, 0-10V Dimmable, Compatible with Battery Back-Up Accessory (DLC)	50	5000	4000	100-277	2
54321162	FPE-24-50-850-MV-D	2'x4' Flat Panel, 0-10V Dimmable, Compatible with Battery Back-Up Accessory (DLC)	50	5000	5000	100-277	2

ETi's basic flat panel offering has a back-side driver for drop-in and grid ceiling applications. But don't let the external driver stop you from surface mounting the panels, if that's what you want to do! Our Surface Mount Kits allow you to slide the panel into a frame for a more flush, close-to-ceiling look.

Surface Mounting Kits

Model #	Part #	Description	Case Pack
20170004	FPE-SMK-22	2'X2' Flat Panel Surface Mounting Kit	15
20170005	FPE-SMK-24	2'X4' Flat Panel Surface Mounting Kit	15



Freight Prepaid Minimum Purchase \$1500

For more information, visit www.ETiSSL.com
 Standard Shipping Turnaround: 24 - 48 hours
 ETi Customer Service: 855.ETi.SSLI (1-855-384-7754)

Prices and terms valid for the 48 contiguous States only.
 Contact ETi for information about shipments to other states and U.S. territories.

3 SELECTABLE LUMEN LEVELS FOR DIFFERENT APPLICATIONS

WATTAGE SELECTION

20W
(2200 lm)



30W
(3300 lm)



40W
(4400 lm)





Catalog Number
Notes
Type

Contractor Select™

LQM Quantum®

LED Emergency Exit



The Lithonia Lighting® LQM Quantum® LED Exit Signs are suitable for identifying emergency exits. This fully assembled single-face exit with extra faceplate is available in red and green letters. Ideal for applications requiring attractive, quick-installation exit signs and low energy consumption. The emergency power provides 90 minutes of illumination in the event of a power loss.

FEATURES:

- Test switch and status indicator for low maintenance (EL N emergency models only)
- UL indoor damp location 50° to 104°F (10°C to 40°C) listed standard
- For use with Dual voltage 120/277VAC, 60Hz



† Exit Signs Certified in the CA Title 20 Appliance Efficiency Database.

Catalog Number	UPC	Description	Supply Voltage	Input Wattage		Input Amps		Pallet Qty	Carton Qty
				120	277	120	277		
LQM S W 3 R 120/277 M6	784231011508	Red exit, AC only, White	120/277, 60Hz	0.62W	0.69W	0.05	0.06	270	6
LQM S W 3 G 120/277 M6	784231011584	Green exit, AC only, White	120/277, 60Hz	0.62W	0.74W	0.05	0.06	270	6
LQM S W 3 R 120/277 EL N M6	784231011553	Red exit with backup battery, White	120/277, 60Hz	0.71W	0.92W	0.05	0.06	270	6
LQM S W 3 G 120/277 EL N M6	784231011614	Green exit with backup battery, White	120/277, 60Hz	0.66W	0.70W	0.05	0.06	270	6

Accessories: Order as separate catalog number.	
ELA WG1	Wireguard (back mount only, 13 3/4"H x 15 1/4"W x 6"D) ¹
ELA LQMUST2	12" Stem kit, brushed aluminum with white canopy ²

NOTES

1. See spec sheet [ELA-WG](#) for more information.
2. See spec sheet [ELA-STEMKITS](#) for more info.



Specifications

INTENDED USE:

Ideal for applications requiring attractive, quick-installation exit signs and low energy consumption.

CONSTRUCTION:

Engineering-grade thermoplastic housing is impact-resistant, scratch-resistant, and corrosion-proof. UL94V-0 flame rating. UV-stable resin resists discoloration from natural and man-made light sources.

Rugged unibody housing snaps together with no additional mechanical fasteners. Faceplate and back cover are interchangeable on housing. Positive snap-fit tabs hold faceplate securely, yet easily removable for lamp compartment access.

Universal directional Chevron inserts are easily removed and reinserted. Uniform illumination without shadows or hot spots. Reinforced, impact-resistant color panels.

OPTICS:

LEDs mounted on printed circuit boards. Low energy consumption – less than one watt.

ELN operation: LED lamp operates in normal (AC input) and emergency (DC input) modes.

The typical life of the exit LED lamp is 10 years.

ELECTRICAL:

Dual-voltage input 120V or 277V AC. Non-emergency (AC only without battery) or Emergency exit with battery. The emergency model includes the test switch, status indicator and rechargeable battery.

Battery: (ELN models) maintenance-free ni-cad battery provides 90 minutes of emergency power.

INSTALLATION:

Universal mounting canopy for top or end mount (canopy included). Back mount standard for single face only.

LISTINGS:

UL damp location listed 50°-104°F (10°-40°C) standard. NOM Certified (see options). Meets UL924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards. Meets all applicable FCC Title 47, Part 15, Subpart B requirements.

WARRANTY:

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:

www.acuitybrands.com/support/customer-support/terms-and-conditions

All life safety equipment, including emergency lighting for path of egress must be maintained, serviced, and tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required maintenance, service, or testing could jeopardize the safety of occupants and will void all warranties.

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

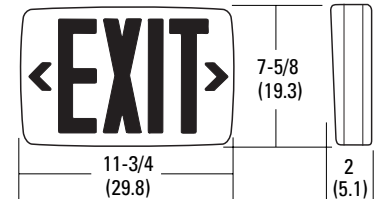
Dimensions

Length: 11-3/4 (29.8)

Depth: 2 (5.1)

Height: 7-5/8 (19.3)

Weight: 2.6 lbs (1.2 kgs)



All dimensions are inches (centimeters) unless otherwise indicated.

Save energy, improve privacy and aesthetics on budget with 3M™ Sun Control Window Film Silver P18 Series.

- ▶ Classic silver reflective film with excellent solar protection
- ▶ Great heat rejection helps provide energy savings and improved comfort
- ▶ Helps reduce glare and eye discomfort
- ▶ Increased reflection helps enhance daytime privacy
- ▶ Can create a more uniform exterior appearance
- ▶ Comprehensive warranty from 3M

Energy Savings ★★★★★

Glare Rejection ★★★★★

Visible Reflection ★★

Visible Light Transmission ★★

Best ★★★★★

Better ★★★★

Good ★★★

Fair ★★

Not Recommended ★

In comparison to other 3M™ Sun Control Window Films

Climate Zone 5

Ford Motor Company Headquarters, Detroit, Michigan





83,000 sq ft installation of Silver P18

Customer Issues:

- ▶ Maintaining comfortable temperatures
- ▶ Difficulty viewing computer screens due to glare from the sun



Product Performance and Technical Data

Glass Type (All 1/4")	Film Type	Visible Light			Total Solar Energy Rejected	Solar Heat Gain Coefficient (G Value)	U Value		Solar Heat Reduction	UV Light Rejected	Glare Reduction	Visible Light to Solar Heat Gain Ratio
		Reflected (Interior)	Reflected (Exterior)	Transmitted			btu/ hft ² F	w/ m ² K				
 Clear	Silver P18	58%	56%	17%	77%	0.23	0.93	5.3	72%	99%	81%	0.7
 Tinted	Silver P18	58%	23%	10%	74%	0.27	0.93	5.3	58%	99%	82%	0.4
 Double Clear	Silver P18	58%	55%	15%	67%	0.33	0.45	2.6	53%	99%	80%	0.5
 Double Tinted	Silver P18	58%	23%	9%	73%	0.27	0.45	2.6	47%	99%	81%	0.3

LEED Certification

Window films may be used toward the following LEED credits

▶ SS-8 ▶ MR 1.1-1.2 ▶ EQ-7.1 ▶ EQ-8.1-8.2 ▶ EA-1 ▶ MR 5.1-5.2 ▶ EQ-7.2 ▶ ID

Warranty and Limited Remedy: 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES OR CONDITIONS, INCLUDING ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If the 3M product does not conform to this warranty, the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price. **Limitation of Liability:** Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted.



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3M Center, Building 220-12E-04
St. Paul, MN 55144-1000
3M.com/windowfilm

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98-0150-0754-9



Product Description

3M CRYSTAL Glass Finishes (the “Products”) offer both dusted and frosted designs that provide the look of sandblasted or etched glass at a fraction of the cost. On a user test and approve basis, you can digitally print on the Products for both customization and personalization options. These Products have a permanent, pressure-sensitive adhesive and a transparent polyester liner for easy cutting. They are available in a dusted crystal finish in translucent white or translucent frosted crystal finish in six colors.

This installation guide describes the wet installation method for applying Product to a variety of flat surfaces, such as interior perimeter glass and limited exterior applications.

Application Surfaces

Based on available test data, the following application surfaces are recommended as noted.

- Glass
- Acrylic
- Polycarbonate

NOTE: Some plastic application surfaces can outgas. Outgassing is the release of a gas as certain plastics or coated surfaces dry and cure. This occurs over a period of time, but not indefinitely. Product that is applied to a surface that is still outgassing will develop air bubbles in the Product that may appear some time after the installation.

3M assumes no liability for bubbles that appear in the applied Product due to outgassing.

Test a Plastic Application Surface for Outgassing

1. Apply a 5 in. x 5 in. (135mm x 135mm) piece of the Product to the plastic application surface in question.
2. If possible, oven bake the sample for 2 hours at 150°F (65°C) or bake for 5 minutes at 350°F (176°C). If oven baking is not an option, allow the sample to sit at room temperature for 24 hours.
3. Examine the sample. Bubbles under the Product indicate that the plastic application surface is outgassing. If no bubbles occur, the application surface is not outgassing.
4. To estimate how long outgassing may continue, repeat the test daily, using a new sample, until bubbles no longer appear under the Product.
5. If outgassing continues for a long period of time, consult the plastic manufacturer for assistance.

High Humidity Conditions

Do not install CRYSTAL Glass Finishes in locations in which the film may frequently come into contact with water or where condensation often occurs.

Installation Tools and Supplies

- 3M™ Hand Applicator PA-1 (Blue or Gold) with 3M™ Low Friction Sleeve SA-1 (for use over the hand applicator)
- 4 in., felt-wrapped plastic applicator, 6mm or greater thickness, nick free
- 4 in. Window scraper with replacement blades
- 8 in. Window cleaning squeegee with replacement rubbers
- Razor blade knife with stainless steel replacement break-away blades
- Ruler with nick-free edges
- Scotch™ Masking Tape
- Clean, lint-free paper towels
- Drop cloths (absorbent) or plastic sheeting
- Spray bottle (a garden style, 1 or 2 gallon, low pressure sprayer works well)
- Water
- Mild, non-lotion containing liquid detergent; no soaps, waxes, oils, or enzymes
- Isopropyl alcohol (70% or industrial strength)

Application Tapes

Use 3M™ Premasking Tape:

- as an installation aid to increase stiffness.
- to prevent stretching and damage during installation.
- when little or no liner is exposed.
- for large letters and/or wide stroke width.

Use 3M™ Prespacing Tape:

- to hold cut and weeded letters or graphics in registration after removing the Product liner.
- to protect cut graphic parts from scratching or damage during installation.
- when large amounts of liner are exposed.
- for small letters and/or narrow stroke width.

Table A. Recommended Application Tapes

Application Tape	Dusted	Frosted
3M™ Premasking SCPM-3	●	●
3M™ Premasking SCPM-44x	●	●
3M™ Prespacing SCPS-2	●	○
3M™ Prespacing SCPS-53x	●	●
3M™ Prespacing SCPS-55	○	●

- Recommended for use
- Not recommended for use

Surface and Work Area Preparation

Use the following steps to prepare the application surface for Product application. An experienced installer's techniques may vary.

Prepare the Application Solution

Prepare a water and liquid detergent solution to use for applying the finish. It should have a concentration of approximately 0.1% to 0.2% detergent. A solution of about 1 teaspoon of mild detergent to 1 gallon of water is sufficient for about 36 square yards of application surface. Pour this solution into your spray bottle.

- High detergent concentration causes the applicator and finish to slip, resulting in insufficient application pressure.
- Low detergent concentration causes the finish to stick or prevents the applicator from traveling smoothly across the finish, which results in an inconsistent application and leaves excess water behind.

Prepare the Installation Area

- Protect the areas surrounding the installation from the application solution over spray and drips, using masking tape and/or drop cloths as appropriate.
- If possible, turn off or cover the heating or air conditioning units and ventilation ducts in the application area prior to starting the installation.
- For the best bonding conditions, the recommended application temperature is 60°F-100°F (16°C-38°C) and the application surface should be at room temperature or higher. In the lower end of this range, additional application pressure on the Product can encourage better adhesive bonding. Attempting to install the Product at temperatures below the recommended range can cause the adhesive to become so firm that it will not develop maximum contact with the application surface.

Surface and Work Area Preparation (continued)

Measure and Cut the Panels

Product panels may be cut to size by hand or electronically cut. If cut by hand, any nicks or burrs on the edge of the ruler used to mark and cut the finish could scratch it. Apply masking tape to the side of the ruler that contacts the finish to help prevent damage. Use a very sharp cutting blade to ensure clean, smooth edges. Make sure the finish is trimmed so its does not touch any caulking that may be used on the edge of the application surface. Contact with caulking may cause the finish to lift at the edges.

This Product may be cut using electronic cutting equipment.

1. Use clean, sharp blades that are set to the proper depth to avoid cutting the liner.
2. Apply a prespacing tape to hold the cut pieces together during installation.
3. Roll the Product onto a 6 in. (15 cm) core, liner side in, or lay flat until ready to use.
4. Always apply the product as soon after cutting as possible.
5. Weeding - the excess Product should be weeded (removed) as soon as practical. This is to minimize the possible effect of adhesive flow 24 or more hours after cutting.

Check the Application Surface for Coatings

Many application surfaces have wax or other invisible coatings on them that interfere with adhesion. Use the following procedure to identify and eliminate such coatings. Be sure your customer understands and agrees with this procedure.

- Place drops of water on several areas of the application surface. Water beads indicate that the glass or plastic has a coating that must be removed for good Product adhesion.
- Saturate a lint-free paper towel with 70% isopropyl alcohol (IPA) and wipe clean the application surface. Wipe the application surface clean before the IPA evaporates with a lint-free paper towel.
- Check again for water beading. If there is no beading, proceed with application surface preparation.

Clean the Application Surface

1. Place drop cloths and/or plastic sheeting to protect the application area below the application surface.
2. Spray the application solution on the application surface.
3. Scrape glass to remove dirt and other contaminants on the surface of the glass.

NOTE: Do not scrape plastic surfaces as this will cause scratches that may show through the Product.

4. Thoroughly rinse the application surface using the sprayer, then squeegee the entire application surface, wiping the squeegee after each stroke.
5. Dry the application surface edge and frame thoroughly.
6. Apply the Product per the installation procedure immediately after cleaning the application surface. Any dirt or contaminants which settle on the application surface after cleaning will inhibit adhesion and may be visible after application.

Installation Procedure

NOTE: Bring the Product to room temperature before installation.

Remove the Liner and Wet the Adhesive

1. Generously spray the application surface with the application solution.
2. Lay the FRONT SIDE of the Product against the application surface so the liner is facing you.
3. Peel back a few inches of the liner. Be sure you pull the liner away from the Product, not the Product from the liner, to avoid stretching the Product.
4. Generously spray the exposed adhesive with the application solution.
5. Continue peeling back the liner and spraying the adhesive with the application solution until the liner is completely removed.

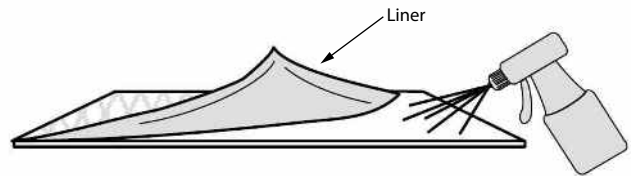


Figure 1. Peel back some liner and spray the adhesive.

NOTE: If the Product panel is large, you may need assistance for the next two steps.

6. Flip the Product and position it on the wetted application surface so the adhesive contacts the application surface.

Apply Product without an Application Tape

1. Recheck the alignment, spray the surface of the Product with application solution to reduce friction.
2. Apply the Product using either the hand applicator with low friction sleeve or felt-covered plastic applicator.
3. Starting at the top in the center of the finish and using firm and consistent pressure, make overlapping strokes from center to edges with the applicator. The goal is to push the water out to the edges so the adhesive makes good contact with the application surface.
4. For the rest of the panel, move the applicator down to overlap the previous strokes by about 50%, and stroke from center to edge, center to edge again, until the panel is fully applied.
5. Wipe the edges of the Product with a clean, lint-free towel to remove any drips.

Apply Product with an Application Tape

NOTE: There is no need to wet the surface of the Product. Apply the Product using the steps above.

1. Wait 20 to 30 minutes for some adhesion to build. Use the longer time frame when the temperature is at the cooler end of the recommended application temperature range.
2. Remove the application tape. Begin at a corner and carefully pull it away from the Product at a 180 degree angle.

NOTE: When you remove the application tape from the Product, the pulling force loosens the adhesive at the edges of the Product, particularly when the Product is applied at or near the minimum installation temperature.

3. Use the hand applicator to apply pressure to all edges of the Product, using firm overlapping strokes.
4. Wipe the edges of the Product with a clean, lint-free towel to remove any drips.

Cleaning and Maintenance

After the application is complete, some application solution may remain between the glass and the finish. This causes small water bubbles or clouding that disappears as the water evaporates. This can take up to several days, depending on environmental conditions.

- Do NOT touch the finish during this time.
- Protect the finish from abuse.

Cleaning Applied Product

NOTE: The Product may be cleaned beginning 30 days after installation.

Regular cleaning will help maintain the Product's appearance. Use only clean, nick-free tools and wipe gently only in one direction. Do not use ammonia, chlorine, or organic-based cleaning products, polishing or cleaning compound, sponges, brushes or electric polishing equipment:

- If there is dust and grit, wipe it off with a soft, damp cloth.
- If it is soiled, but not gritty, use water and squeegee.
- If there is heavier soil, use a mild liquid detergent and water solution, then clear water, and wipe gently with a cloth wipe.

Removal

The Product can be removed with low heat or the use of 3M Adhesive Remover Citrus Base and a scraper.

Transportation and Storage

- 40°F to 90°F (4°C to 32°C)
- Away from direct sunlight
- Clean dry area
- Original container

Safety



CAUTION: Risk of Glass Breakage Due to Thermal Expansion

Glass surfaces exposed to sunlight will absorb heat. A glass surface covered by a film with high opacity or dark-colored ink, including films with small areas of high opacity or dark-colored ink, will absorb more heat. Heat absorption can create thermal stress that results in glass breakage, or thermal cracking. This can cause personal injury and property damage. 3M specifically does not recommend using a film with high opacity or dark-colored ink on glass surfaces with significant exposure to sunlight.

Technical Information

Technical information and data, recommendations, and other statements provided by 3M are based on information, tests, or experience which 3M believes to be reliable, but the accuracy or completeness of such information is not guaranteed. Such technical information and data are intended for persons with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. The typical values shown should not be used for the purpose of specification limits. If you have questions about this Product, contact the Technical Service helpline at 1-888-650-3497.

WARRANTY

Limited Warranty

1. 3M warrants that a Product will be free from defect in manufacture (“3M Warranty”) on 3M’s Product shipment date (“Warranty Period”). EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, THE 3M WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, RIGHTS OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND THOSE ARISING FROM A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. THE BUYER IS RESPONSIBLE FOR DETERMINING IF A PRODUCT IS SUITABLE FOR ITS PARTICULAR PURPOSE AND APPLICATION METHODS.
2. For a buyer’s convenience, 3M may provide engineering or technical information, recommendations, installation instructions, and other information or materials relating to Product (“Other Product Information”), but 3M makes only the 3M Warranty and does not warrant any Other Product Information.
3. 3M has no obligation under the 3M Warranty as to Product that has been: (a) modified, altered or processed in any manner; (b) stored, applied, installed, or used in a manner other than that 3M recommends in this Technical Data Sheet and in all Other Product Information; (c) damaged through contact with a person or thing, misuse, accident, neglect, or other action by anyone other than 3M; or (d) exposed to excessive heat, humidity, dirt or UV light.

Limited Remedy

If any Product is proven not to have met the 3M Warranty on the buyer’s receipt, then the buyer’s exclusive remedy, and 3M’s sole obligation, will be, at 3M’s option, to replace that Product quantity or refund the applicable purchase price.

Limitation of Liability

3M WILL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO A BUYER FOR DIRECT (other than the Limited Remedy stated above), SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS) IN ANY WAY RELATED TO A PRODUCT, THIS TECHNICAL DATA SHEET, OR OTHER PRODUCT INFORMATION, REGARDLESS OF THE LEGAL OR EQUITABLE THEORY ON WHICH SUCH DAMAGES ARE SOUGHT.

3M Architectural Markets 3M U.S.

3M Center
Building 220-12E-04
St. Paul, MN 55144-1000
1-888-650-3497
3M.com/AMD

3M Canada

1840 Oxford St E
London, ON N5V 3R6
1-800-265-1840

3M Architectural Markets 3M Europe

Hermeslaan 7
1831 Diegem
Belgium
www.3M.eu/ArchitecturalMarkets

3M Architectural Markets 3M Italia, S.p.A.

Via Nortberto Bobbio, 21
20096 Piofello MI
Tel. 02.7035.2517
3mitalia.it

3M India Limited Architectural Markets Department

Concorde Block, UB City
24 Vittal Mallya Road, Bangalore 560 001
Tel: 080 2223 1414 | Fax: 080 2223 1450
3mintérieurs.in@mmm.com
www.3M.com/in/interiors

3M Architectural Markets 3M Gulf

PO Box 20191, Dubai Internet City
Building @ 11
Dubai, United Arab Emirates
Tel. 971 4 3670 777 | Fax 971 4 3670 998



Product Description

3M™ Dusted and Frosted CRYSTAL Glass Finishes (the “Products”) offer the designs of sandblasted (dusted) or etched (frosted) glass, at a fraction of the cost. On a user test and approve basis, you can digitally print on the Products for both customization and personalization options. These Products have a permanent, pressure-sensitive adhesive and a translucent polyester liner for easy cutting. They are available in a Dusted Crystal finish in translucent white and a Frosted Crystal finish in translucent white and gold. The Products can be used in applications on the surface of interior glass, interior perimeter glass (the “Interior Applications”), and vertical exterior glass (the “Exterior Applications”)

IMPORTANT NOTE

Please refer to the 3M™ CRYSTAL Installation Guide for additional information on wet application.

Featured Benefits

- Achieve the look of sandblasted or etched glass
- Create custom cut shapes to promote your brand and design
- Provide privacy in interior or exterior spaces while maintaining an open feel
- Easy application - wet application method virtually eliminates air bubbles, simplifying and speeding application
- Expected Performance Life is 15 years for interior applications on non-perimeter glass (see Warranty).

Product Characteristics

The values in these tables are typical, and are based on test data deemed reliable but are not warranted.

Characteristic		Value
Material	Film	Vinyl
	Adhesive	Pressure-sensitive acrylic, permanent
	Release Liner	Silicone-coated polyester
Thickness	Film + Adhesive	3.2 mils (81 microns) - 7725SE-314 Dusted Crystal White 4.7 mils (120 microns) - 7725SE-324 Frosted Crystal White
	Release Liner	3.5 mils (89 microns)
Maximum Roll Size		60 in. x 150 ft. (152 cm x 46 m) - 7725SE-314 Dusted White & 7725SE-324 Frosted Crystal White 48 in. x 150 ft. (122 cm x 46 m) - All colors
Maximum Weight		62 lb. (29 kg) (approx.) 60 in. x 150 ft. roll 49 lb. (23 kg) (approx.) 48 in. x 150 ft. roll
Products		7725SE-314: Dusted Crystal White VE16709: No Logo Liner Dusted Crystal White 7725SE-324: Frosted Crystal White VE14704: Smooth Frosted Crystal White 7725SE-331: Smooth Frosted Crystal Gold

Product Performance

The values in these tables are typical, and are based on test data deemed reliable but are not warranted.

Characteristics	Value	
Adhesion 24 hours after application *	Acrylic, Glass, and Polycarbonate	4 lb./in. (18 N/25mm)
Fire Resistance	When used in Interior Applications on glass, Products have Class A rating per ASTM E84 Test Method, as defined by NFPA 101 “Life Safety Code”	
VOC Emissions Test	Compliant as low emitting per CA Specification 01350, tested per CDPH Standard Method V1.1-2010.	
Tensile Strength Minimum	Dusted Crystal	Frosted Crystal
	5 lb./in. at 73°F (23N / 25mm at 23°C)	3.5 lb./in. at 73°F (15N / 25mm at 23°C)

* Test specimens were applied to the substrate and conditioned at 68 F (20 C), then peel tested at 180 degree at a tensile speed of 12 inches (300 mm) per minute.

3M™ Dusted and Frosted CRYSTAL Glass Finishes

Optical Performance Characteristics

The optical values are calculated as theoretical values and compiled with existing data. The values in these tables are typical, and are based on test data deemed reliable but are not warranted.

Characteristic		Dusted CRYSTAL	Frosted CRYSTAL
Shading Coefficient *		0.93	0.82
Solar Heat (%)	Reflectance *	7%	10%
	Transmittance *	76%	64%
	Absorbance *	17%	26%
Visible Light (%)	Reflectance *	8%	12%
	Transmittance *	85%	72%
UV (%)	Transmittance *	27%	20%

* As measured on 6mm clear glass.

Resistance to Cleaners and Disinfectants

Glass finishes are wet applied to glass and allowed to dry for at least 48 hours. For wipe testing, the cleaner or disinfectant is applied to the sample to simulate routine use in a healthcare setting, and then wiped off with a cloth. For immersion testing, the sample is immersed in the cleaner or disinfectant for 10 minutes or up to 24 hours, then rinsed with water and allowed to dry. Any change in the surface of the glass finish is noted. Other cleaners and disinfectants with the same active ingredient are expected to perform similarly.

Cleaner or Disinfectant	Wipe Testing Result	Immersion Time	Immersion Testing Result
3M™ C. diff Solution Tablets Concentrate	No visible change	24 hours	No visible change
3M™ HB Quat Disinfectant Cleaner Concentrate #25A	No visible change	24 hours	No visible change
3M™ Neutral Quat Disinfectant Cleaner Concentrate # 23	No visible change	10 minutes	No visible change
Isopropyl Alcohol – 70% IPA/30% water	No visible change	24 hours	No visible change
3M™ MBS Cleaner Concentrate #41	No visible change	10 minutes	No visible change
3M™ Quat Disinfectant Cleaner Concentrate #5A	No visible change	24 hours	No visible change
3M™ RCT Disinfectant Cleaner Concentrate #40A	No visible change	24 hours	No visible change
Clorox® Bleach - 50% bleach/50% water	No visible change	10 minutes	No visible change

Product Use

The user is solely responsible for evaluating and determining whether these 3M Products are suitable and appropriate for any particular use or manufacturing process in which they may be used.

3M™ Dusted and Frosted CRYSTAL Glass Finishes

Application and Removal Guidelines

The values in these tables are typical, and are based on test data deemed reliable but are not warranted. See the 3M™ CRYSTAL Glass Finishes Installation Guide for additional information.

Characteristic	Value
Application Surface Type	Flat
Application Surface Material	Glass, acrylic, polycarbonate
Application Location	Interior and exterior applications.
Application Temperature	54°F - 100°F (12°C - 38°C) air and application surface
Application Method	Wet application
Applied Product Shrinkage	0.01 in. (0.3mm) maximum
Applied Product Exposure Temperature	-40°F - +149°F (-40°C - +65°C)
High Humidity Environments	Products are not recommended for Interior Applications where condensation consistently occurs.
Product Removal	Low heat, or 3M Adhesive Remover Citrus Base and scraper

NOTE: Removing the Product too quickly can result in excessive adhesive left on the substrate. If necessary, heat a small section of the film with a heat gun to soften the adhesive, peel back slowly, then heat and remove the next section.

Processing Options

Inkjet Printing

3M™ Dusted and Frosted CRYSTAL Glass Finishes may be inkjet printed or screen printed with UV-cured or solvent inks on a user test and approve basis. No warranty is made for the quality or durability of printed Product. 3M offers:

- No Logo Liner Dusted Crystal VE16709 for use with printing
- Smooth Frosted CRYSTAL VE14704 for use with application tape and cutting.
- Smooth Frosted Gold CRYSTAL 7725SE-331 for use with application tape and cutting.

Cutting

Based on electronic cutting and weeding evaluations that used Helvetica medium upper case, the recommended minimum cutting height for text is 0.375 in. (0.95 cm). Because of the differences in electronically controlled cutting equipment and font characteristics, users should determine their own cutting and weeding capability.

- Sharpness of the knife blade. Dull blades create a serrated look to the cut edge of the Product.
- Weight on the knife blade. The ideal weight slightly scores the liner. Too little weight does not cut completely through the film and adhesive. Excessive weight cuts the liner. It also causes the blade to drag, accelerating wear and eventually creating a serrated cut edge on the Product.
- Temperature and relative humidity are minor considerations, but avoid extreme or rapidly fluctuating conditions.
- Store the Product in the same environment as the cutting equipment.
- Consider the stroke width of characters, style of serifs or extensions, and small details of scanned or digitized artwork.

The minimum recommended stroke width is 0.040 in. (1.0 mm) when the Product will be exposed to cleaning or other physical stress.

Weeding

Please see the 3M™ Dusted and Frosted CRYSTAL Glass Finishes Installation Guide for details. An application tape can be laminated to the product to support the cut shapes. Please see the 3M™ Dusted and Frosted CRYSTAL Glass Finishes Installation Guide for recommended applications tapes.

Shelf Life and Storage

Shelf Life

Apply the Product within 2 years of the date of purchase. The storage conditions specified in this document must be maintained for full shelf life.

Storage Conditions

- 40°F - 90°F (4°C - 32°C)
- Away from direct sunlight and high humidity
- Clean, dry area
- Original container with end caps, in the plastic sleeve, stored horizontally, a maximum of 6 cartons high
- Bring the Product to room temperature before application

Cleaning and Maintenance

NOTE: The Product may be cleaned beginning 30 days after installation.

Regular cleaning will help maintain the Product's appearance. Use only clean, nick-free tools and wipe gently only in one direction. Do not use ammonia, chlorine, or organic-based cleaning products, polishing or cleaning compound, sponges, brushes or electric polishing equipment

- If there is dust and grit, wipe it off with a soft, damp cloth.
- If it is soiled, but not gritty, use water and squeegee.
- If there is heavier soil, use a mild liquid detergent and water solution, then clear water, and wipe gently with a cloth.
- Use spray window cleaning products only if needed for stubborn soil. Spray, then wipe gently with a cloth. Then rinse with clean water and wipe gently with a cloth. Acceptable window cleaners for occasional use are 3MTM Glass Cleaner and Protector Concentrate #17, Windex® Original Glass Cleaner, Sprayway® Glass Cleaner Foaming Aerosol Spray, and 10% Isopropyl Alcohol in 90% water.

Health and Safety

CAUTION

When handling any chemical products, read the manufacturers' container labels and the Safety Data Sheets (SDS) for important health, safety and environmental information. To obtain SDS sheets for 3M products go to [3M.com/SDS](https://www.3m.com/SDS), or by mail or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.

WARNING

To reduce the risks of personal injury and/or property damage associated with glass breakage:

A glass surface covered by a film with areas of high opacity or dark-colored ink will absorb more heat than other glass surfaces when exposed to sunlight. Heat absorption can create thermal expansion that could result in glass breakage or cracking. Do not use a film with areas of high opacity or dark-colored ink on glass surfaces with significant exposure to sunlight.

Technical Information

Technical information and data, recommendations, and other statements provided by 3M are based on information, tests, or experience which 3M believes to be reliable, but the accuracy or completeness of such information is not guaranteed. Such technical information and data are intended for persons with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. The typical values shown should not be used for the purpose of specification limits. If you have questions about this Product, contact the Technical Service helpline at 1-800-328-3908.

3M™ Dusted and Frosted CRYSTAL Glass Finishes

LEEDv4 Credits

This section describes some of the options for acquiring LEED credits using 3M™ Dusted and Frosted CRYSTAL Glass Finishes.

NOTE: Each application is different. It is the sole responsibility of the end user to evaluate and determine whether LEED credits can be acquired.

ID+C MR Credit, Interiors Life-Cycle Impact Reduction

- Option 1: Interior Reuse - Product can be used to refinish salvaged, refurbished, or reused building materials

ID+C, BD+C EQ Credit, Low-Emitting Materials

- Product has been tested to and is in compliance with the General Emissions Evaluation (California Department of Public Health (CDPH) Standard Method V1.1-2010)

ID+C, BD+C EQ Credit, Daylight

- Product can be used to enable daylight in enclosed spaces

BD+C MR Credit, Building Life-Cycle Impact Reduction

- Option 3: Building and Material Reuse - Product can be used to refinish salvaged, refurbished, or reused building materials

O+M MR Credit, Purchasing - Facility Maintenance and Renovation

- Product can be used to refinish salvaged, refurbished, or reused building materials
- Product has been tested to and is in compliance with the General Emissions Evaluation (California Department of Public Health (CDPH) Standard Method V1.1-2010)

BUILDING PRODUCT DISCLOSURE AND OPTIMIZATION INFORMATION

Environmental Product Declaration (EPD) or Life Cycle Analysis (LCA)

EPD and/or LCA information not available.

Raw Material Source and Extraction Reporting

Raw Material source and extraction information for this product is considered to be 3M confidential and is therefore not available.

Extended Producer Responsibility

Take-back or recycling program for this product is not available.

Bio-based Materials

Product have not been tested to ASTM D6866.

Wood Products

Product does not contain wood-based materials.

Materials Reuse

Product can be used to refinish salvaged, refurbished, or reused building materials.

Recycled Content

Product does not contain pre- or post-consumer recycled content.

Warranty

Product

3M™ Dusted and Frosted CRYSTAL Glass Finishes (the “Product”).

3M Basic Product Warranty

The Product(s) specified in this document are warranted to be free of defects in materials and manufacture (“3M Basic Product Warranty”) on the date of shipment (“Warranty Period”) by 3M or its authorized distributor.

Limited Warranty

- For Products used in Interior Applications or Exterior Applications in the continental United States, 3M makes the following warranty (the “3M Limited Warranty”) for the applicable time period stated below (“Warranty Period”), which will begin on the earlier of: (a) Product installation date; or (b) six months after 3M’s Product shipment date.

The Product will have no significant discoloration, cracking or other similar visual defects for the applicable time period below:

Application		Warranty Period
Interior Applications	Excluding building perimeter glass	15 years
	Building perimeter glass	5 years
Exterior Applications	Vertical glass	3 years
Plastic application surfaces		Not warranted

- For a buyer’s convenience, 3M may provide engineering or technical information, recommendations, installation instructions, and other information or materials relating to Product (“Other Product Information”), but 3M makes only the 3M Basic Product Warranty and the 3M Limited Warranty and does not warrant any Other Product Information.
- 3M has no obligation under the 3M Basic Product Warranty or the 3M Limited Warranty as to Product that has been: (a) modified, altered or processed in any manner; (b) stored, applied, installed, or used in a manner other than that 3M recommends in this document and in all Other Product Information; (c) damaged through contact with a person or thing, misuse, accident, neglect, or other action by anyone other than 3M; (d) improperly installed, including, without limitation, installation after the expiration the Product’s shelf life or installation without proper surface preparation, or (e) exposed to excessive heat, humidity, dirt or UV light.
- EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, THE 3M BASIC PRODUCT WARRANTY AND 3M LIMITED WARRANTY ARE MADE IN LIEU OF ALL OTHER WARRANTIES, RIGHTS OR CONDITIONS, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY, SATISFACTORY QUALITY, FITNESS FOR A PARTICULAR PURPOSE AND THOSE ARISING FROM A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. THE BUYER IS RESPONSIBLE FOR DETERMINING IF A PRODUCT IS SUITABLE FOR ITS PARTICULAR PURPOSE AND ITS APPLICATION METHODS.
- 3M must receive any 3M Basic Product Warranty or 3M Limited Warranty claim in writing no later than 10 business days after (a) the end of the Warranty Period or (b) the discovery of the 3M Warranty claim, whichever is earlier.

WARRANTY (continued)

Limited Remedy

IF ANY PRODUCT IS PROVEN NOT TO HAVE MET THE 3M BASIC PRODUCT WARRANTY OR THE 3M LIMITED WARRANTY DURING THE WARRANTY PERIOD, THEN THE BUYER'S EXCLUSIVE REMEDY, AND 3M'S SOLE OBLIGATION, WILL BE, AT 3M'S OPTION, TO REPLACE THE NONCONFORMING PRODUCT OR TO REFUND THE NONCONFORMING PRODUCT'S PURCHASE PRICE.

No Extension of Warranty

In the case of an approved warranty claim, the replacement Product will carry only the remaining term of the original warranty period.

Limitation of Liability

3M WILL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO A BUYER FOR DIRECT (other than the Limited Remedy stated above), SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS) IN ANY WAY RELATED TO THE PRODUCT, THE TECH DATA SHEET OR OTHER PRODUCT INFORMATION, REGARDLESS OF THE LEGAL OR EQUITABLE THEORY ON WHICH SUCH DAMAGES ARE SOUGHT.

Commercial Solutions

3M Center, Building 220-12E-04
St. Paul, MN 55144

1-800-328-3908
3M.com/Graphics

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Regulatory Data Sheet

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This Regulatory Data Sheet is provided as a courtesy in response to a customer request.

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3M™ Frosted CRYSTAL White Glass Finish 7725SE-324

3M
Commercial Branding and Transportation Division
3M Center, St. Paul, MN 55144-1000, USA
1-888-3M HELPS (1-888-364-3577)

RDSs are available at www.3M.com

Regulations and Industry Standards

SDS (US OSHA)

This product is an article and therefore is not subject to the requirements of the US Occupational Safety and Health Administration's (OSHA) Hazardous Communications Standard 29 CFR 1910.1200(b)(6)(v) to provide a Safety Data Sheet (SDS).

Conflict Minerals

Conflict Minerals, which the U.S. Securities and Exchange Commission ("SEC") has defined as gold, columbite-tantalite (coltan), cassiterite, wolframite, or their derivatives (tin, tantalum, or tungsten), are not contained in and are not "necessary to the functionality or necessary to the production" of the above-listed product, as the term "necessary to the functionality or the production" is defined under the SEC's Conflict Minerals Rule. 77 Fed. Reg. 56274 (Sept. 12, 2012). Adhesive liners and similar materials that function like packaging to preserve product usability up to and following product purchase are not considered to be part of the product. They are out of scope for conflict minerals reporting (reference: National Association of Manufacturers Guidelines for Interpreting the SEC Conflict Minerals Disclosure Rule, section II).

EU REACH

This product is an article, without intended release of a chemical substance, under the Regulation No 1907/2006 of the European Parliament and the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (refer to REACH, Article 3(3)). It is not a chemical preparation. Therefore, it is not subject to the (pre)-registration or the registration process. It does not require a safety data sheet.

EU REACH

This product, including any article that the product is composed of, does not contain at greater than 0.1% by weight a Substance of Very High Concern (SVHC) substance identified according to Article 59 of REACH. This declaration reflects the substances on the candidate SVHC list, effective January 2024. *Certification valid only for products made in the United States. For EU products, please visit www.3M.com/SVHC for certificates.*

EU RoHS

This product does not exceed the maximum concentration values (MCVs) set under EU Directive 2011/65/EU (RoHS recast/RoHS 2), as stated in Annex II to that directive. This means that each of the homogenous materials within this product

does not exceed the following MCVs: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; and (b) 0.01% (by weight) for cadmium.

Definitions

Note: all Definitions take Disclaimers into account and apply to the “Chemicals and/or Compounds of Interest” and/or “Per and poly-fluoroalkyl Substances (PFAS)” sections only

Terms	Definitions
Contains*	Present based on composition information disclosed by 3M suppliers, analytical testing, or both.
Not known to contain*	1. Analytical measurement for presence is not currently available; 2. If measurement is possible, a) The material has not been identified or disclosed to 3M and b) The material has not been specifically quantified or detected; OR c) Based on information from raw material suppliers, possible presence as an impurity or by-product at or below regulatory thresholds (e.g., 0.1 or 0.01 %)
Intentionally added**	Desired in the final product to provide a specific characteristic, appearance, or quality and/or to perform a specific function.
Not intentionally added**	By-product(s), impurity(ies) and/or unintended artifact(s) resulting from the formulation and/or manufacture of a material.
By-product***	A chemical substance produced without a separate commercial intent during the manufacture, processing, use, or disposal of another chemical substance or mixture.
Impurity***	A chemical substance which is unintentionally present with another chemical substance (e.g., residuals, catalysts, process solvents).

**Terms apply to the Chemicals and/or Compounds of Interest Section only (if section is present)*

***Terms apply to the PFAS Section only (if section is present)*

****Terms apply to both the Chemicals and/or Compounds of Interest and PFAS Sections (if section(s) are present)*

Disclaimers: The information provided in this document related to material content represents 3M's knowledge and belief, which may be based in whole or in part on information provided by suppliers to 3M. This is intended to answer commonly asked questions about 3M products and is not intended to be a comprehensive listing of all substances that may be of interest or that may be regulated in this or other 3M products, nor is it intended to be a comprehensive summary of any and all regulations that may apply to this product. Where substances are listed, their listing does not infer or constitute a judgment as to their safety, environmental or health impacts. Information is supplied upon the condition that the persons receiving the same will make their own determination as to its suitability for their purposes prior to use. Customers are encouraged to consult with legal and regulatory experts to determine applicable regulations in light of intended use of the product.

Limitation of Remedies and Liability: In the event any Product is proven not to conform with the information in this document, then to the extent permitted by law, 3M's entire liability and Buyer's exclusive remedy, will be at 3M's option either: (i) replacement of Product with a conforming product, or (ii) refund of the purchase price paid by Buyer for each non-conforming Product, within a reasonable time after written notification of said non-conformance and return of said Product to 3M. 3M shall not under any circumstances be liable for direct, incidental, special, or consequential damages (including but not limited to loss of profits, revenue, or business) related to or arising out of this certification, including, the use, misuse or inability to use the Product. Unless stated otherwise in writing, the foregoing language cannot be waived, modified, or supplemented in any manner whatsoever.



CONTROLLAVIEW
VISION CONTROL SOLUTIONS

Vision **Control** For Doors

www.controllaview.com.au

Single Glazed **VISION PANELS**

The Controllaview door vision panel... The easy install, Innovative glazing concept...

With the Controllaview Vision Panel being pre-glazed and fully assembled - the installation of panels into existing or pre-finished doors is a time-efficient and simple process.

Vision panels are also an effective means of satisfying a broad range of safety requirements.

Vision panels are stocked in a wide range of sizes in a natural anodised finish. Custom sizes are made to order and panels can be manufactured using a broad range of glass types and frame finishes.

KEY FEATURES OF CONTROLLAVIEW VISION PANELS:

- » Fully assembled pre-glazed panels
- » Snap together installation into door with no fixings required
- » Glazed using 6.38 clear laminate safety glass according to Australian Standards
- » Suits door thicknesses - 32 to 48mm
- » Custom sizes available



300 x 200mm



300 x 300mm



400 x 400mm



600 x 200mm



600 x 300mm



600 x 600mm



900 x 200mm



900 x 600mm



1700 x 200mm

Installation Instructions

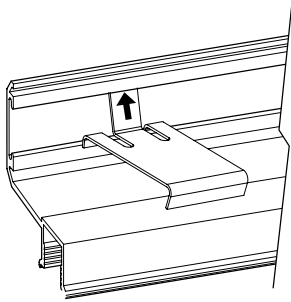
Stocked sizes in Natural Anodised finish: H (mm) x W (mm)

300 x 200	600 x 600
300 x 300	900 x 200
400 x 400	900 x 600
600 x 200	1700 x 200
600 x 300	

Note: Sizes listed are actual cut out sizes.

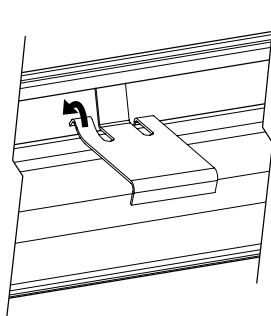
Step 1

Insert main centre leg into upper channel.



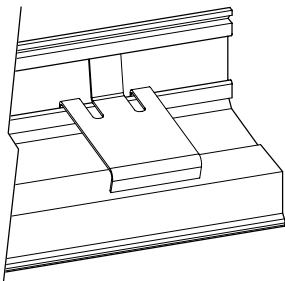
Step 2

Insert one small leg down into lower channel.



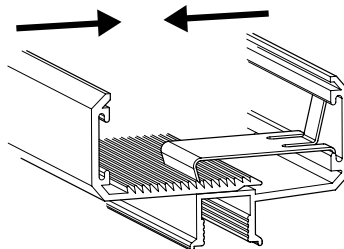
Step 3

Lift and insert second small leg down into lower channel.



Step 4

Place front frame into opening and press back frame into position from opposite side of the door.



Note: To assist with shock absorption it is recommended adhesive sealant be applied between vision panel and door surface on installation.



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BROCHURE

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DOOR CLOSERS



2800ST



Ideal for applications where both security and accessibility are a priority.

FEATURES

- Cast aluminum body
- Adjustable spring size 1 through 6
- Door weight: 250 lbs.
- Unique spline arm
- Push and pull side installation, door or frame mounted
- 30-year limited warranty

7500



A robust, multi-sized surface closer designed to deliver superior performance and long-term reliability.

FEATURES

- Cast aluminum closer body
- Adjustable spring sizes 1-6
- Heavy-duty arms: Regular Rigid, Parallel Rigid, CloserPlus®, CloserPlus Spring™ and Unitrol®
- Slide Tracks: push or pull side mounting
- Corrosion resistant model available (specify 7500SS)
- 25+ million cycles
- 30-year limited warranty



9500



Multi-size cast iron door closer for high-use applications.

FEATURES

- Cast iron closer body
- Adjustable spring sizes 1-6
- Heavy-duty arms available: Regular Rigid, Parallel Rigid, CloserPlus®, Parallel Rigid Offset and Unitrol®
- Slide Track: push or pull side mounting
- Closer mounting plate for easy installation
- 25+ million cycles
- 30-year limited warranty

NORTON RIXSON CLOSERS COMPARISON

ALUMINUM

2800ST	7500	8000	1600	1700BC	78B/F	210	160
Grade 1	Grade 1	Grade 1	Grade 1	Grade 3	Grade 3	Grade 1	Grade 1
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30 Year	30 Year	30 Year	30 Year	5 Year	10 Year	10 Year	5 Year
N/A	25 Million	25 Million	25 Million	Per Standard	Per Standard	Per Standard	Per Standard
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
1"x 11-1/8"	2-3/8" x 6-3/4"	3/4" x 12"	3/4" x 9-1/16"	3/4" x 8"	4-1/8" x 1-3/8"	3/4" x 12"	3/4" x 9-1/16"
Adjustable 1-6	Adjustable 1-6	Adjustable 1-6	Adjustable 1-6 Size 3, 4	Size 3 or 4 (depends on installation)	Size 2-4; Size 5 or 6	Adjustable 1-6	Adjustable 1-4 Size 4
Non-Handed	Non-Handed	Non-Handed	Non-Handed	Non-Handed	Handed	Non-Handed	Non-Handed
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Standard	Standard	Standard	Optional	Optional	No	Standard	Optional
No	Optional	Optional	No	No	No	No	No
No	No	Optional	No	No	No	No	No
No	Yes	Yes	No	No	Yes	No	No
Optional	Optional	Optional	Optional	Optional	Optional	Standard	Standard
Multiple	Multiple	Multiple	Multiple	689, 690	Multiple	689, 690, BSP	689, 690, BSP
	•	•	•	•	•	•	•
	•	•	•	•		•	•
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*Retrofit LCN4040XP
◦ Specific to Individual Series

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The ASSA ABLOY Group is the global leader in access solutions. Every day, we help billions of people experience a more open world.



ASSA ABLOY Opening Solutions leads the development within door openings and products for access solutions in homes, businesses and institutions. Our offering includes doors, frames door and window hardware, mechanical and smart locks, access control and service.

	ARCHITECTURAL		COMMERCIAL					
NORTON RIXSON	LCN	DORMAKABA	Best	FALCON	DESIGN HARDWARE	HAGER	PDQ	CAL ROYAL
2800ST		T93						
7500	4040XP	8900	EHD9000					
9500								
8000	1460	8600	HD7000					
1600	1260	7400						
78B/F								
410		QDC100			416	5100	7100	DR441
210	1450	QDC200		SC80A	314	5200	5500	CR801
160	1250	QDC300		SC60A	116	5300	3100	500

Note: No products are exactly alike. This cross reference represents our judgement of products that are most similar. Information has been obtained from trade sources. It is not represented nor guaranteed that any product exactly equals any other products.

PATENTS

www.assaabloydss.com/patents

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CATALOG

SURFACE CLOSERS

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2800ST

CAM ACTION DOOR CLOSER

INTRODUCTION

Easy Open - Secure Close

The 2800ST cam action door closer with Cam-Motion™ technology is designed to make doors easy to open while maintaining enough force to close doors securely. The 2800ST is one closer and track assembly that can support up to four installation positions and has a unique arm to simplify installation.

Ideal for applications where both security and accessibility are a priority.

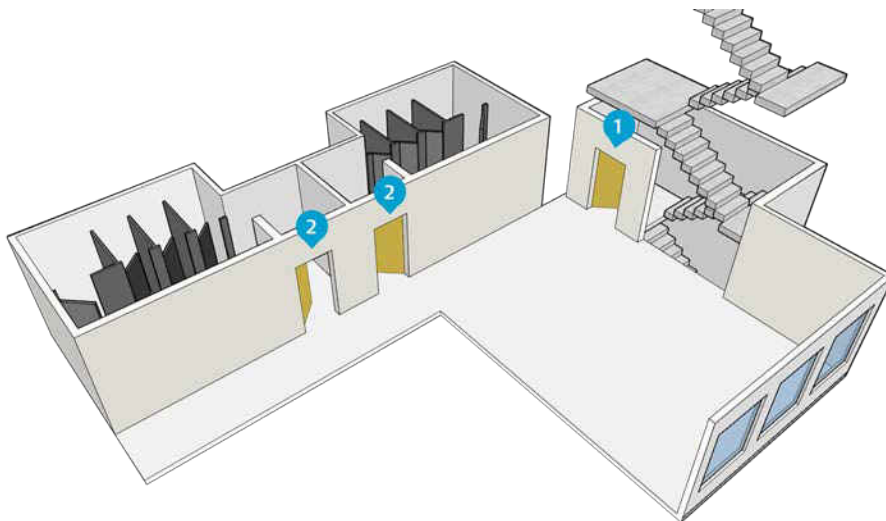
FEATURES

- Cast aluminum body
- Adjustable spring size 1 through 6
- Door weight: 250 lbs.
- Non-handed
- Unique spline arm
- Push and pull side installation, door or frame mounted
- Hold open; specify H suffix
- Sex nuts (optional)
- Adjustable closing force
- Adjustable closing and latching speed
- Backcheck standard
- Door size*:
 - Suitable for exterior and interior doors
 - Recommended maximum interior door width 54" (137)
 - Standard opening range: Pull Side = 140°, Push Side = 110°
- 30-year limited warranty



BENEFITS

- One model - four mounting options
- Easy to open
- Reliable closing
- Forward facing valves
- High efficiency
- Flexible:
 - Spline arm offers multiple indexing options to accommodate standard and special applications
 - 1/2" vertical adjustment



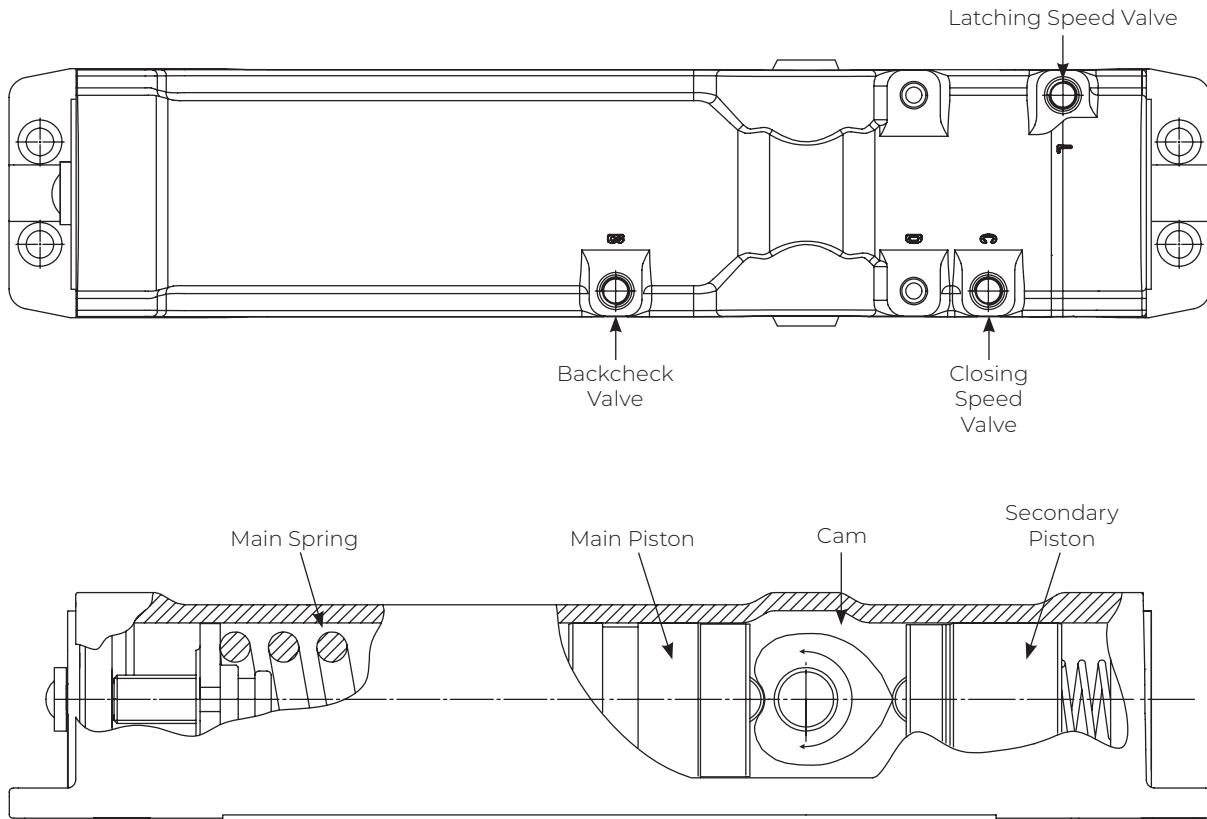
Security

The 2800ST provides reliable closing where safety is a priority, without sacrificing convenience.





Accessibility

Comfortable opening eases everyone's passage through frequently-used doors.



CERTIFICATIONS

- ANSI/BHMA A156.4, Grade 1 **BHMA** CERTIFICATION
- Americans with Disabilities Act (ADA) Compliant 
- Trade Agreement Act (TAA)
- UL10C positive pressure up to 3 hours 
- UL-cUL listed

CAUTION: Door Closers for Low Opening Force Applications:

Door closers installed in openings required to meet the requirements of the Americans With Disabilities Act or ANSI/BHMA Standard A117.1, when adjusted to meet those requirements, may not provide adequate closing power to dependably close and latch the door based on opening or site conditions.

SPECIFICATIONS

Door Closers, Surface Mounted (Cam Action): ANSI/BHMA 156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, high efficiency door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be of the cam and roller design, one piece cast aluminum silicon alloy body with adjustable backcheck and independently controlled valves for closing sweep and latch speed. Door closer to have adjustable hold open position with an on/off selector. Non-hold open units to be U.L. Listed for self-closing door. Unit to be in compliance with the requirements of the Americans With Disabilities Act (ADA). ANSI standards A117.1. Units to meet C-UL US.

2800ST

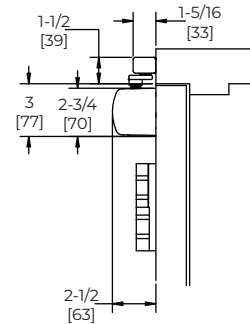
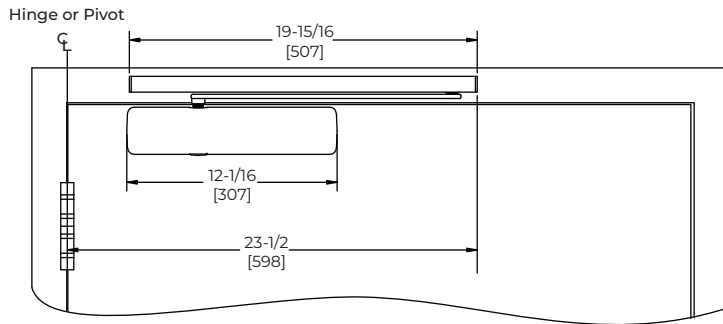
CAM ACTION DOOR CLOSER

STANDARD APPLICATIONS



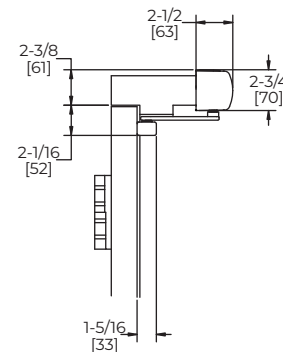
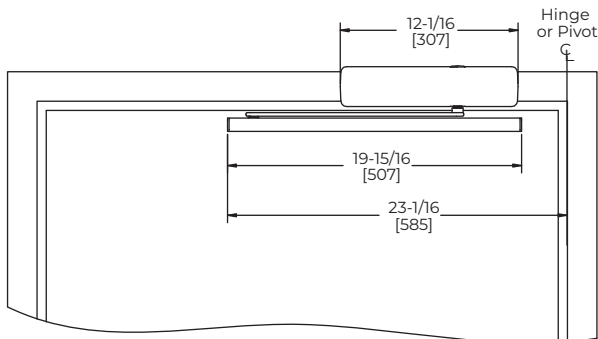
Pull Side, Door Mounted

- 140° swing (trim permitting)
- Hold open model, specify suffix "H"



Push Side, Frame Mounted

- Maximum frame reveal is 4" (102mm)
- An auxiliary door stop is required
- 110° swing (trim permitting) without spring stop
- If hold open required, consult factory

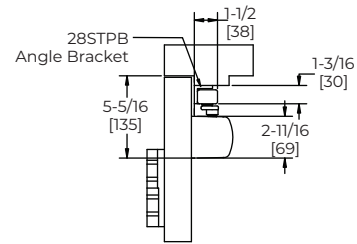
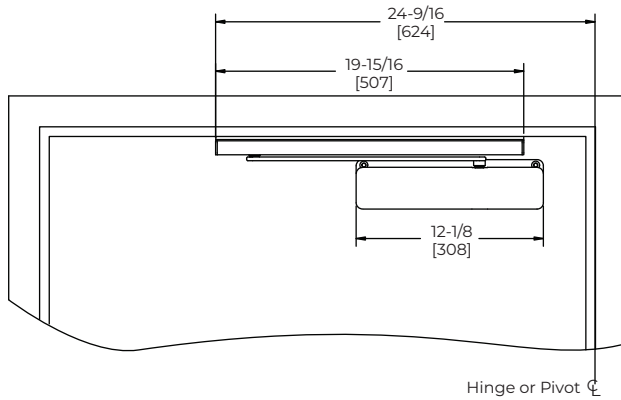


OPTIONAL APPLICATIONS



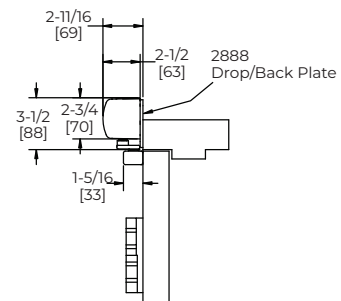
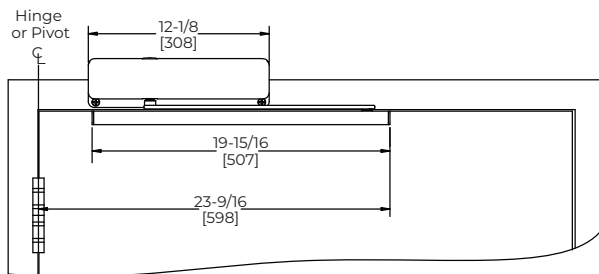
Push Side, Door Mounted

- Minimum frame reveal is 1-1/2" (13mm)
- 110° swing (trim permitting)
- 28STPB slide track angle bracket required (sold separately)
- Hold open model, specify suffix "H"



Pull Side, Frame Mounted

- 140° swing (trim permitting)
- 2888 back plate required if frame face is less than 3" (sold separately)
- Hold open model, specify suffix "H"



2800ST

CAM ACTION DOOR CLOSER

FUNCTION



Inclusive Restroom Function

A standard 2800ST closer can be configured for an inclusive restroom application, commonly known as the telephone booth, with a minor adjustment during the installation process. See the installation instructions for specific details. When configured, the closer functions as follows:

- Closer normally holds door open at approximately ten (10) degrees; standard spline arm allows degree of hold open to be adjusted up or down
- Upon entering room, a user can push or pull the door closed
- When a user exits the room, the closer allows the door to open normally and returns the door to the preset position
- The standard cushion stop block and optional hold open assembly can be installed in the track to provide additional door control

PARTS LIST

Part #	Description
2800LAP	Closer body only
28ST-1T	Track and arm assembly, non-hold open
28ST-3T	Track and arm assembly, hold open
2800P	Plastic cover
SP2800B	Closer screw pack
SP2800S	Spline screw pack
SP28T	Track screw pack
SN-134	Sex nut package: 1-3/4" door thickness
SN-214	Sex nut package: 2-1/4" door thickness

28STHO
Hold-Open Assembly



ACCESSORIES

2888 Drop/Back Plate: For use where the narrow top rail of the door prevents the closer from being mounted directly to the door surface. This drop plate must be used for closer mounted on a top rail between 1-7/8" and 3-3/8" (48 and 86mm) in height.



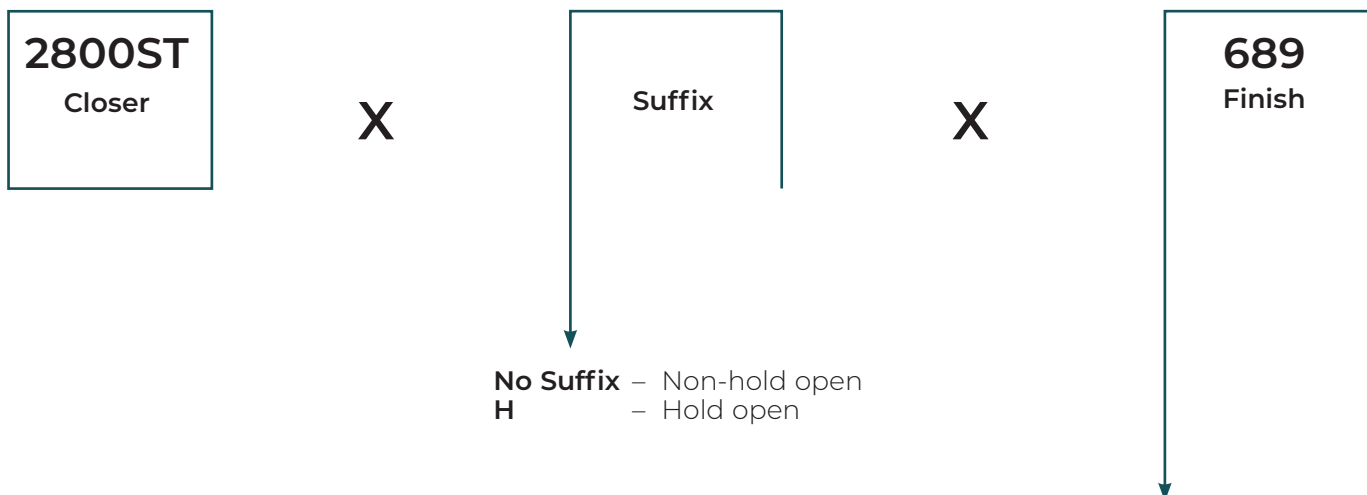
28STPB - Slide Track Angle Bracket



2800ST

CAM ACTION DOOR CLOSER

HOW TO ORDER



FINISHES

Product will be sprayed with a combination of waterborne acrylic and polyester powder coat.

ANSI/BHMA (US)	Description
613E (US10BE)	Dark oxidized satin bronze - equiv.
689 (US28)	Aluminum, painted
690 (US20)	Dark bronze, painted
691 (US10)	Light bronze, painted
693	Black, painted
694	Medium bronze, painted
696 (US4)	Gold , painted
BSP	Black suede powder coat
WSP	White suede powder coat

NOTE:

- Before installing a door closer, verify the accessibility, fire, and life-safety requirements that are in effect. This includes the mounting height and projection into the clear opening. Check the adopted state and local building codes and consult the Authority Having Jurisdiction (AHJ)
- To maintain the warranty and ensure proper operation of the product, follow the installation instructions & templates and install on the inside of the building.
- Consult NFPA 80 for the hinge requirements on a fire door.
- Failure to use fasteners supplied with closer may void factory warranty.
- Optional fasteners are available for a variety of applications. Consult the door and frame manufacturer to ensure the proper fasteners are used to maintain certifications.
- Sizing charts are based on 1-3/4" x 7' standard weight doors swinging to 110°. Other application conditions (e.g. larger door heights or weight) may require larger size closer. Adjusting the spring power to meet the low opening force requirements of the Americans With Disabilities Act or ANSI/BHMA Standard A117.1, may not provide adequate closing power to dependably close and latch the door in some conditions (i.e. air movement from wind gusts or building stack pressure).

CLOSERS COMPARISON

CERTIFICATION & WARRANTY	CAST IRON			ALUMINUM								
	9500	9540	410	2800ST	7500	8000	1600	1700	78B/F	210	160	
ANSI/BHMA A156.4	Grade 1	Grade 1	Grade 1	Grade 1	Grade 1	Grade 1	Grade 1	Grade 1	Grade 3	—	Grade 1	Grade 1
UL & ULC Listed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Warranty	30 Year	30 Year	10 Year	10 Year	30 Year	30 Year	30 Year	30 Year	5 Year	10 Year	10 Year	5 Year
Extended Cycle Testing	25 Million	Per Standard	Per Standard	N/A	25 Million	25 Million	25 Million	25 Million	Per Standard	Per Standard	Per Standard	Per Standard
End of Life Recycling Program Available	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SIZE & CONSTRUCTION												
Construction (Body)	Cast Iron	Cast Iron	Cast Iron	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Mounting Hole Pattern	1" x 10"	2-1/4" x 5"	2-1/4" x 5"	1"x 11-1/8"	2-3/8" x 6-3/4"	3/4" x 12"	3/4" x 9-1/16"	3/4" x 8"	4-1/8" x 1-3/8"	3/4" x 12"	3/4" x 9-1/16"	
Spring Size	Adjustable 1-6	Adjustable 1-6	Adjustable 1-6	Adjustable 1-6	Adjustable 1-6	Adjustable 1-6	Adjustable 1-6 Size 3, 4	Size 3, 4	Size 2-4; Size 5-6	Adjustable 1-6	Adjustable 1-4 Size 4	
Closer Body (Handing)	Non-Handed	Non-Handed	Non-Handed	Non-Handed	Non-Handed	Non-Handed	Non-Handed	Non-Handed	Handed	Non-Handed	Non-Handed	
Standard Backcheck	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
OPTIONS												
Plastic Cover	Standard	Standard	Standard	Standard	Standard	Standard	Optional	Standard	No	Standard	Optional	
Metal Cover Option	Optional	Optional	No	No	Optional	Optional	No	No	No	No	No	
Slim Line Cover Option	No	No	No	No	No	Optional	No	No	No	No	No	
Delayed Action Option	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	No	No	
Sex Nuts & Bolts (Tri-Style® pack)	Optional	Optional	Standard	Optional	Optional	Optional	Optional	Optional	Optional	Standard	Standard	
Finishes	Multiple	Multiple	689, 690 only	Multiple	Multiple	Multiple	Multiple	689, 690 only	Multiple	689, 690 only	689, 690 only	
APPLICATION / ARM TYPE AVAILABILITY												
Regular	•	•	•		•	•	•	•	•	•	•	
Top Jamb	•	•	•		•	•	•	•		•	•	
Parallel	•	•	•		•	•	•	•	•	•	•	
Regular Rigid	•				•	•						
Parallel Rigid	•				•	•	•		•			
Heavy Duty: HDH/HDN			•							•		
CloserPlus	•				•	•	•					
CloserPlus Spring			•		•	•	•					
CloserPlus Ramp					•	•						
Cushion Stop							•					
Unitrol	•				•	•	•		•			
Low Profile					•	•						
Slide Track	•			•	•	•						

* Retrofit LCN4040XP
 ◦ Specific to Individual Series

2800ST Cam Action Door Closer

Push and Pull Side, Door or Frame Mounted

Non-Hold Open and Hold Open

Installation Instructions

⚠ WARNING

This product can expose you to lead which is known to the state of California to cause cancer and birth defects or other reproductive harm. For more information go to: www.P65warnings.ca.gov.

CAUTION

An incorrectly installed or improperly adjusted door closer can cause property damage or personal injury. These instructions should be followed to avoid the possibility of misapplication or misadjustment.

Hold open units are not permitted to be installed in fire door assemblies.

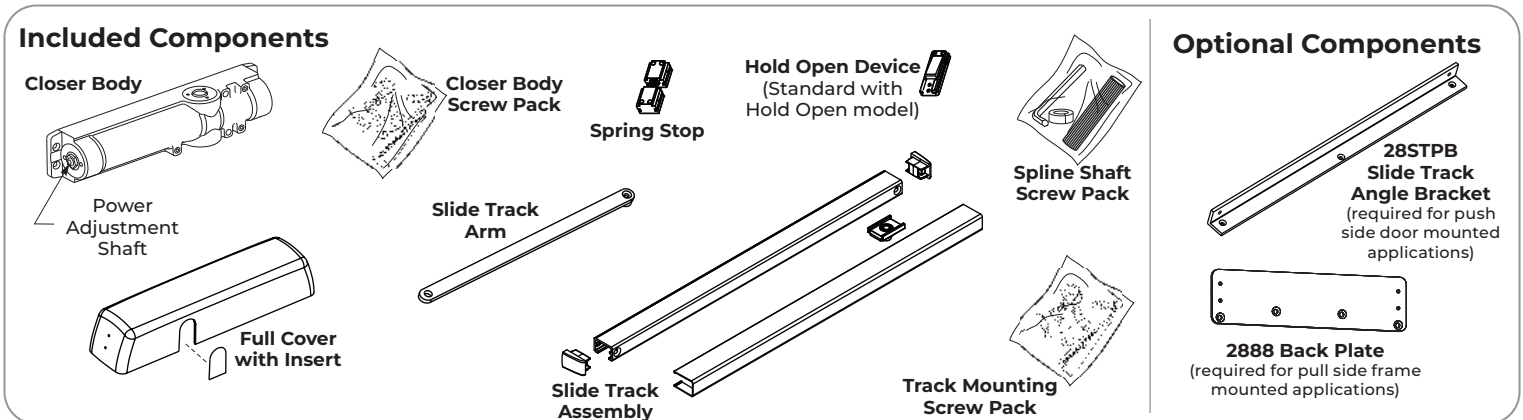
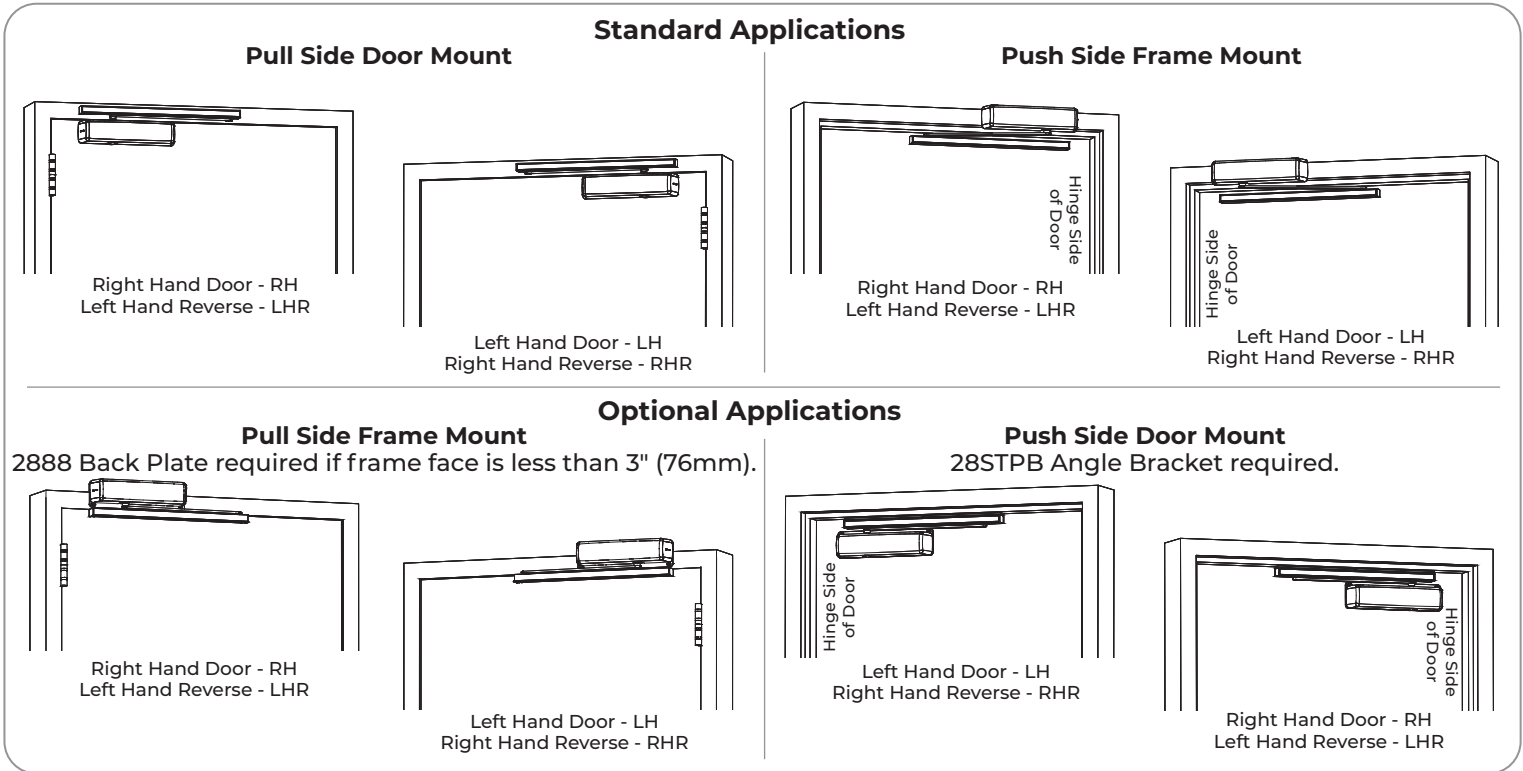
NOTES:

- For special applications a separate door and frame preparation template is packed with these instructions.
- Use this instruction sheet for installation sequence and closer adjustments only.
- Use of an auxiliary door stop is always recommended.

READ AND FOLLOW ALL INSTRUCTIONS.
SAVE THESE INSTRUCTIONS.



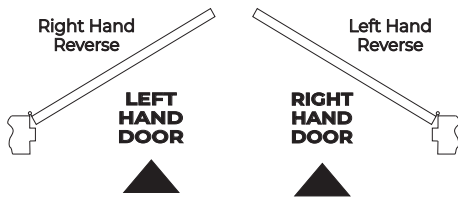
The closing force for Series 2800ST door closers is adjustable from a size 1 to a size 6, as outlined in ANSI Standard A156.4. When these series of door closers are installed and adjusted to conform to ADA reduced opening force requirements (5 lbs max.) for interior doors, they may not have adequate closing force to reliably close and latch the door. Power adjustments charted on Page 2 are recommended where possible, to ensure proper door control.



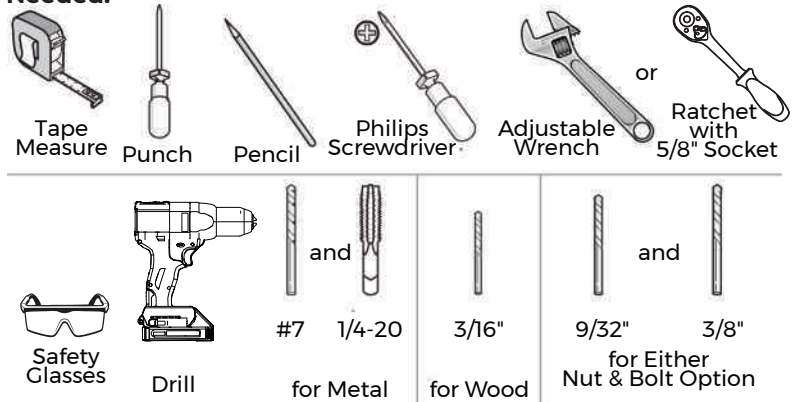
Supplied Hardware

Fasteners		Door or Frame	Drill Sizes
Standard	Closer: 1/4" Self-Drilling Screw (Closer Body Only)	Aluminum Metal or Wood	3/16" (4.8mm) pilot hole required
	Track: #12-14 Self-Drilling Screw (Track Only)		3/32" (2.4mm) pilot hole required
	Closer: 1/4-20 Machine Screw	Metal	Drill #7 (.201 dia. or 5.10mm) Tap 1/4-20
	Track: #12-24 Machine Screw		Drill 4.4mm or #16 (.0172") Tap #12-24
Optional	Closer Body Only: Sleeve Nut and Bolt (SNB)	Hollow Metal	9/32" (7.0mm) thru 3/8" (9.5mm) door face opposite to closer
		Aluminum or Wood	3/8" (9.5mm) thru
	Closer Body: Thru Bolt and Grommet Nut (TBGN)	All	9/32" (7.0mm) thru 3/8" (9.5mm) dia. x 3/8" (9.5mm) deep, door face opposite to closer

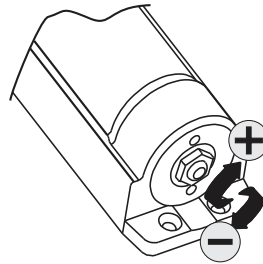
To Determine Hand of Door:



Tools Needed:



Power Adjustment Chart

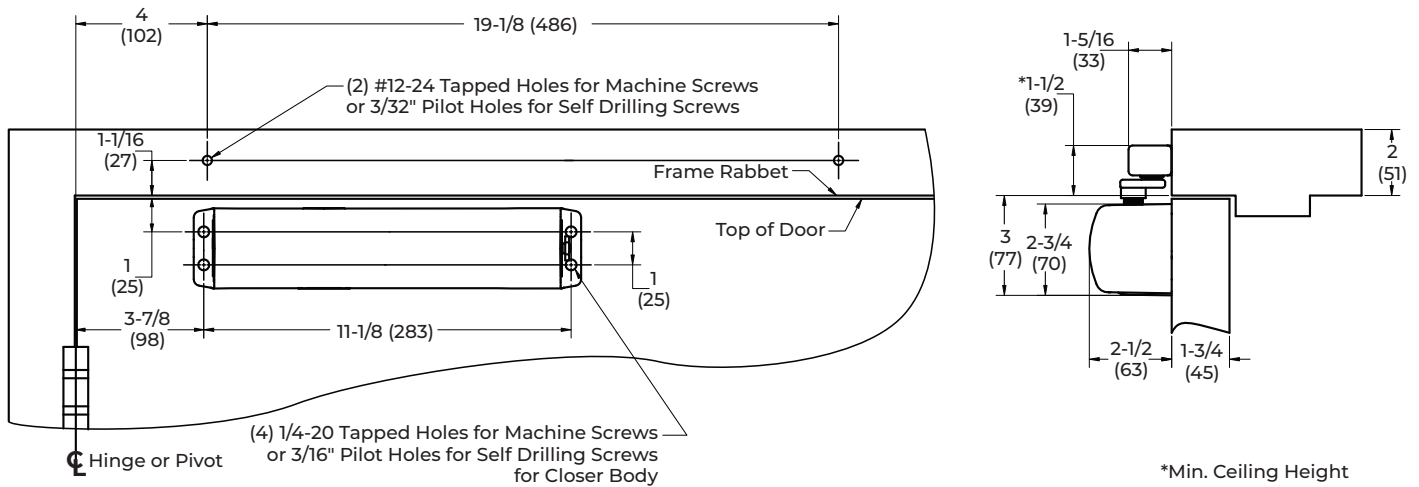


Use 5/8" Socket or Adjustable Wrench for this Adjustment

PULL SIDE 2800ST Power Adjustment Chart for Hold Open and Non-Hold Open			PUSH SIDE 2800ST Power Adjustment Chart for Hold Open and Non-Hold Open		
Number of turns from 0	Size	Approximate Closing Force Measured 30" from Hinge	Number of turns from 0	Size	Approximate Closing Force Measured 30" from Hinge
1-1/2	1	2 lbf.	2	1	2 lbf.
2	2	3 lbf.	3	2	3 lbf.
4	3	5 lbf.	5	3	5 lbf.
6	4	8 lbf.	6-1/2	4	8 lbf.
8	5	11 lbf.	9	5	11 lbf.
9	6	14 lbf.	10	6	14 lbf.

NOTE: Maximum of 14 turns (360°) of Power Adjustment Shaft. Closer is shipped set at 4 turns.

Pull Side Door Mount Installation



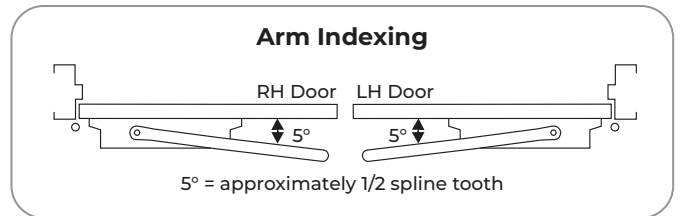
NOTES:

- Right hand door shown
- Do not scale drawing
- Dimensions are given in inches (mm)
- Minimum ceiling clearance for unit is 1-1/2" (39mm) from top of frame rabbet
- Maximum door opening:
 - 140° Max. – Non-Hold Open and Hold Open track

Installation Sequence

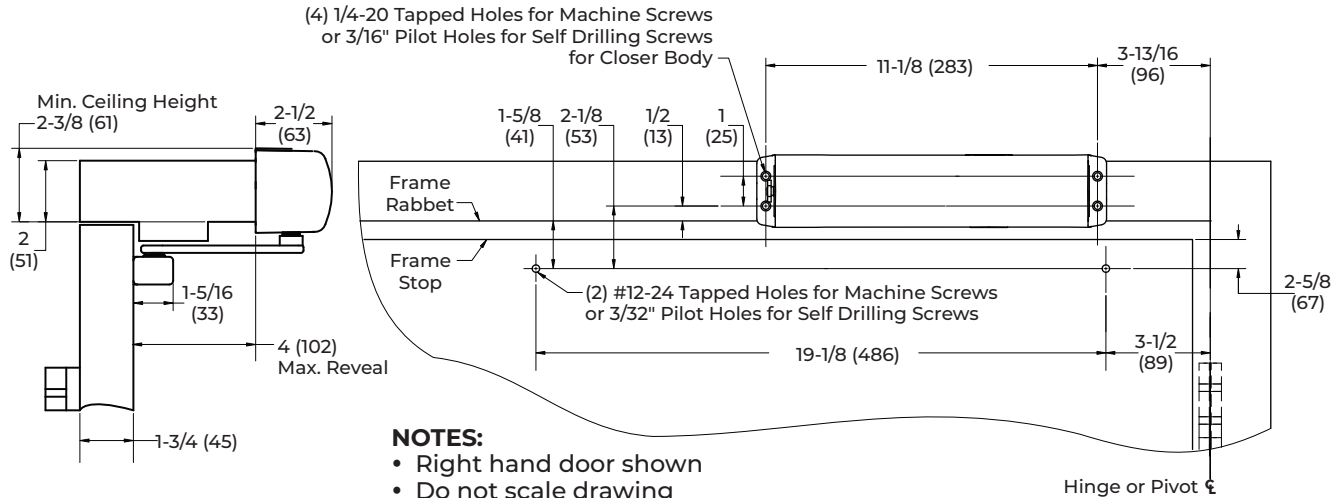
1. Using the template above, locate the holes on the door and frame.
 - Four (4) on door for closer
 - Two (2) on frame face for track assembly.
2. Prepare door and frame for fasteners using the Supplied Hardware chart on page 2.
3. Close the “C” and “L” valves on the closer body.
4. Fasten the closer body to the door with power adjustment nut toward the lock edge of door.
5. The slide track comes pre-assembled with the slider and end caps in place. If using a spring stop and/or hold open device, prepare the slide track assembly before proceeding. Refer to Adjustments on page 7

NOTE: The end caps secure the slider, spring stop, and/or hold open device in the slide track. Make sure the end caps are installed before securing the slide track assembly onto the frame with the provided screws.
6. Fasten slide track assembly to frame face with open side facing down, and the spring stop and hold open device (if equipped) installed toward hinge edge of door.
7. Secure the arm to the spline shaft with the silver arm screw using the 4mm allen wrench provided.
8. With the arm parallel to the door, insert the spline shaft into the top of closer. The spline shaft will contact the gear inside the closer. For inclusive restroom/telephone booth function, refer to page 8.



9. Once the spline shaft and closer gear have made contact, rotate the arm approximately 5° (as shown in Arm Indexing chart above) until the spline shaft slides further into the closer gear.
10. Move the arm in position under the slider stud. Insert the 5mm hex wrench through the threaded hole in the arm and into hex on the stud. Rotate counter-clockwise until tightened. (See Figure 1 on page 7)
11. Slide the spline vertically in or out of the closer up to 1/2 inch until arm is parallel to the track. Install plastic bushing on opposite side of spline shaft with the black screw provided.
12. Slowly open the “C” and “L” valves and allow door to close to the jamb.
13. Adjust closer power (see Pull Side power setting in the Power Adjustment Chart on page 2), closer valves, and Hold Open device (for 2800STH models). (See page 7)

Push Side Frame Mount Installation

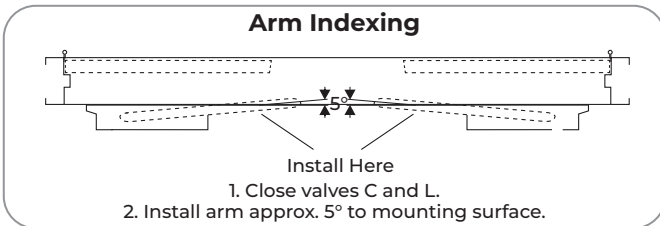


NOTES:

- Right hand door shown
- Do not scale drawing
- Dimensions are given in inches (mm)
- Minimum ceiling height for unit is 2-3/8" (61mm)
- Maximum door opening:
 - 110° Max. – Non-Hold Open and Hold Open track without spring stop.
- An auxiliary stop by others is required.

Installation Sequence

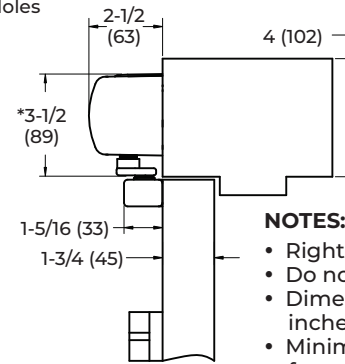
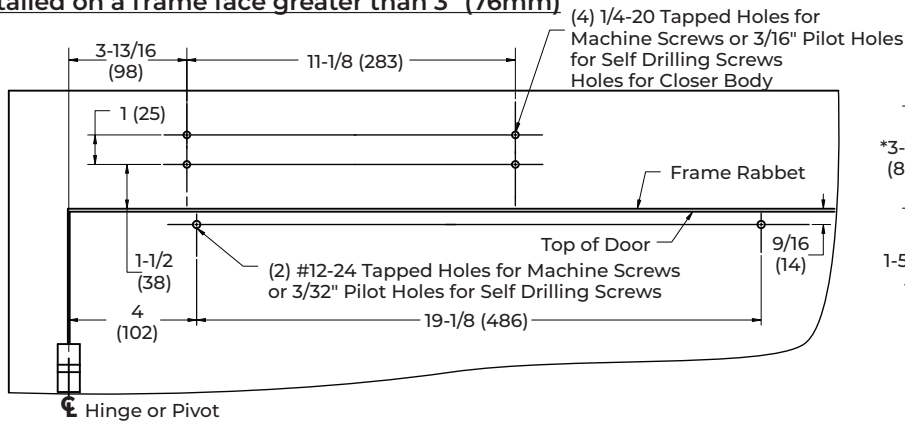
- Using the template above, locate the holes on door and frame:
 - Four (4) on frame face for closer.
 - Two (2) on door for track assembly.
 - Prepare door and frame for fasteners using the Supplied Hardware chart on page 2.
 - Fasten the closer body to the frame face with power adjustment nut toward the lock edge of door.
 - Fasten the slide track assembly to door with open side facing up.
- NOTES:**
- This application will not use the spring stop; do not install in track.
 - For 2800STH model only, install hold-open device in track. Refer to the DC152 document or Figure 6 on page 7 for proper orientation.
- Secure the arm to the spline shaft with the silver arm screw using the 4mm hex wrench provided.
 - Close the "C" and "L" valves. See Arm Indexing figure.
 - With arm parallel to door, insert spline into the bottom of closer. The spline will contact the gear inside the closer. For inclusive restroom/telephone booth function, refer to page 8.
 - Once the spline shaft and closer gear have made contact, rotate the arm approximately 5° toward the door (as shown in Arm Indexing graphic) until the spline shaft slides further into the closer gear.
 - Open door slightly to gain access to top of slider in track assembly.
 - Move the arm in position over the slider stud. Insert the 5mm hex wrench through threaded hole in the arm and into hex on stud. Rotate counterclockwise until tightened. (See Fig. 1 on page 7.)
 - Slide the spline vertically in or out of the closer, up to 1/2" until the arm is parallel to the track. Install plastic bushing on the opposite side of the spline shaft with flat head screw provided.
 - Slowly open the "C" and "L" valves and allow door to close to the jamb.
 - Adjust closer power (see Push Side power setting in the Power Adjustment Chart on page 2), closer valves, and Hold Open device (for 2800STH models). (See page 7)



2800ST Cam Action Door Closer

Pull Side Frame Mount Installation

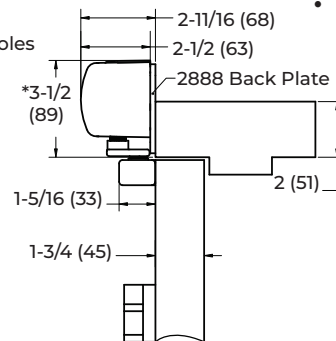
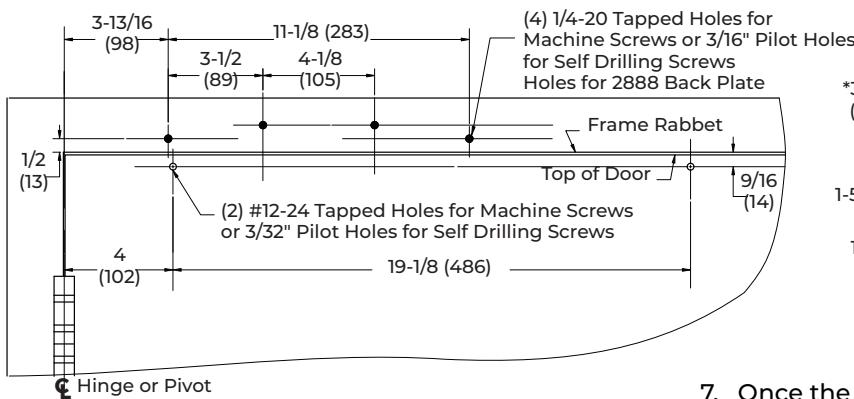
Installed on a frame face greater than 3" (76mm)



NOTES:

- Right hand door shown
- Do not scale drawing
- Dimensions are given in inches (mm)
- Minimum ceiling clearance for unit is 3-1/2" (88mm) from top of door
- Maximum door opening: 140° – Non-Hold Open and Hold Open track

Installed on a frame face less than 3" (76mm) 2888 Back Plate required.

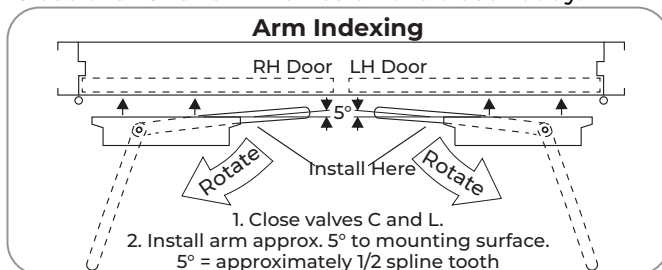


*Min. Ceiling Height

Installation Sequence

NOTE: The 2888 Back Plate is required if the frame face is less than 3" (76mm).

1. Using the template above based on frame condition, locate the holes on the door and frame.
 - Four (4) on frame face for closer or 2888 back plate.
 - Two (2) on door for track assembly.
2. Prepare the door and frame for fasteners using the Supplied Hardware chart on page 2.
3. Secure the arm to the spline shaft with the silver arm screw using the 4mm allen wrench provided.
4. Close the "C" and "L" valves on the closer body.

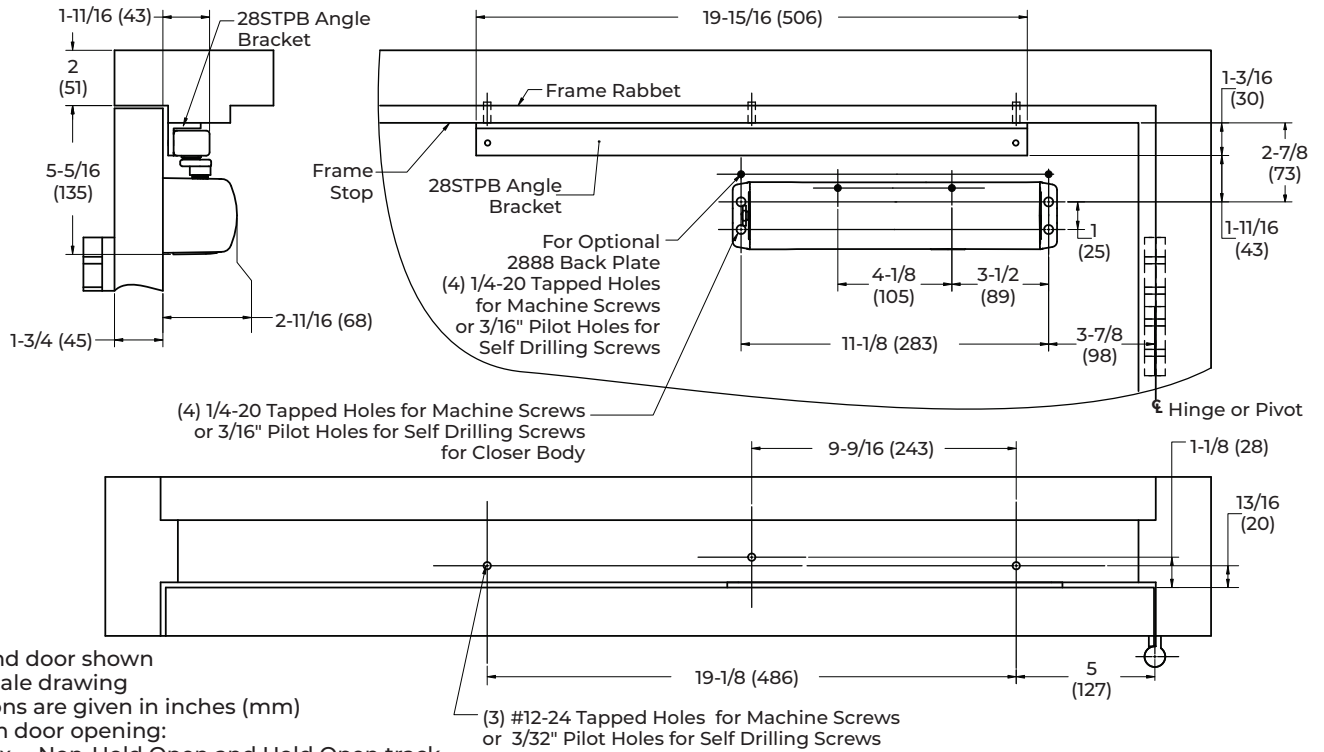


5. Fasten the closer body to the frame with the power adjustment nut toward the lock edge of door.
6. With the arm parallel to the mounting surface, insert the spline shaft into bottom of the closer. The spline shaft will contact gear inside closer. For inclusive restroom/telephone booth function, refer to page 8.

7. Once the spline shaft and closer gear have made contact, rotate arm approximately 5° (as shown in Arm Indexing graphic above) until spline shaft slides further into the closer gear.
8. The slide track comes pre-assembled with the slider and end caps in place. If using a spring stop and/or hold open device, prepare the slide track assembly before proceeding. Refer to Adjustments on page 7.

NOTE: The end caps secure the slider, spring stop, and/or hold open device in the slide track. Make sure the end caps are installed before securing the slide track assembly onto the door with the provided screws.
9. Fasten the slide track to the door with the open side facing up and spring stop and hold open device (if equipped) installed toward the hinge edge of the door.
10. Move the arm in position over the slider stud. Insert the 5mm hex wrench through the threaded hole in the arm and into hex on stud. Rotate counter-clockwise until tightened. (See Figure 1 on page 7)
11. Slide the spline vertically in or out of the closer up to 1/2 inch until the arm is parallel to the track. Install plastic bushing on the opposite side of spline shaft with black screw provided.
12. Slowly open the "C" and "L" valves and allow door to close to the jamb.
13. Adjust closer power (see Pull Side power setting in the Power Adjustment Chart on page 2), closer valves, and Hold Open device (for 2800STH models). (See page 7)

Push Side Door Mount Installation



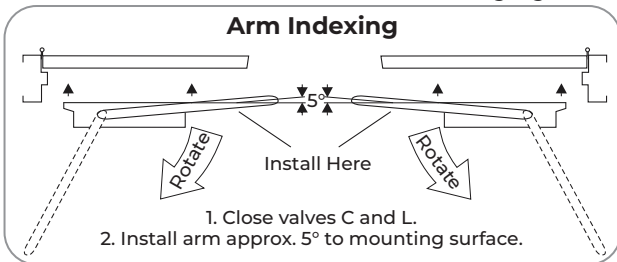
NOTES:

- Right hand door shown
- Do not scale drawing
- Dimensions are given in inches (mm)
- Maximum door opening:
– 110° Max. – Non-Hold Open and Hold Open track

Installation Sequence

NOTE: The 28STPB Angle Bracket is required for this configuration.

1. Using the template above, locate the holes on door and frame:
 - Four (4) on door for closer.
 - Three (3) on frame soffit for the 28STPB angle bracket.
2. Prepare the door and frame for fasteners using the Supplied Hardware chart on page 2.
3. Secure the arm to the spline shaft with silver arm screw using the 4mm allen wrench provided.
4. Close “C” and “L” valves. See Arm Indexing figure.



5. Rotate the arm as shown in the arm indexing graphic, and fasten the closer body to door with power adjustment nut toward lock edge of the door.
6. With power adjust nut toward the lock edge of the door and the arm parallel to the mounting surface, insert the spline shaft into top of the closer. The spline shaft will contact the gear inside closer. For inclusive restroom/telephone booth function, refer to page 8.

7. Once the spline shaft and closer gear have made contact, rotate arm approximately 5° toward the door (as shown in Arm Indexing chart above) until spline shaft slides further into the closer gear.

8. The slide track comes pre-assembled with the slider and end caps in place. If using a spring stop and/or hold open device, prepare the slide track assembly before proceeding. Refer to Adjustments on page 7

NOTE: The end caps secure the slider, spring stop, and/or hold open device in the slide track. Make sure the end caps are installed before securing the slide track assembly onto the frame with the provided screws.

9. Fasten the 28STPB angle bracket to the door frame as shown above. Attach the track to the angle bracket with the open side facing down and spring stop and hold open device (if equipped) installed toward the hinge edge of the door using black screws provided with the 28STPB angle bracket kit.

10. Move the arm in position under slider stud. Insert the 5mm hex wrench through threaded hole in the arm and into hex on the stud. Rotate counter-clockwise until tightened. (See Figure 1 on page 7)

11. Slide the spline vertically in or out of the closer up to 1/2” until the arm is parallel to the track. Install plastic bushing on the opposite side of spline shaft with black screw provided.

12. Slowly open the “C” and “L” valves and allow door to close to the jamb.

13. Adjust closer power (see Push Side power setting in the Power Adjustment Chart on page 2), closer valves, and Hold Open device (for 2800STH models). (See page 7)

Adjustments

Arm Attachment to Track Slider:

Move arm in position under slider stud. Insert 5mm hex wrench through threaded hole in the arm and into hex on stud. Rotate counter-clockwise until tightened. See Figure 1.

Closing Power

2800ST Models are fully adjustable. For proper sizing see chart on Page 2. To adjust closer power – See Figure 2. Increase or decrease power as necessary.

Closing Cycle (hydraulic control) See Figure 3A.

- Valve "L" controls door speed in Latch range.
 - Valve "C" controls door speed in Sweep range.
- Use 4mm hex-key furnished & adjust as shown in Figure 4.

Opening Cycle (hydraulic control) See Figure 3B.

Valve "B" cushions (slows) door opening in the back-check range.

NOTE: Never close this valve completely or damage to closer may occur.

Use 4mm hex-key furnished & adjust as shown in Figure 5.

Installation of Cover:

Architectural plastic cover: Slide cover over the closer and snap on.

Spring Stop Opening Angle Adjustment:

The opening angle may be adjusted from 80 to 110 degrees by positioning the spring cushion assembly in the track. Refer to instructions included in the spring cushion package labeled "DC153".

NOTE: Spring stop must be installed on every configuration except the Push Side Frame Mount installation.

Hold Open Position/Power Adjustment:

If more or less hold open power is required, the power may be increased by turning the adjustment screws in the hold open device. Additionally, the hold open position may be adjusted from 80 to 110 degrees. Refer to instructions included in the hold open package labeled "DC152".

NOTE: Install spring cushion stop toward hinge then install hold open device. See Fig. 6 on this page.

Figure 1 - Arm Attachment to Track Slider

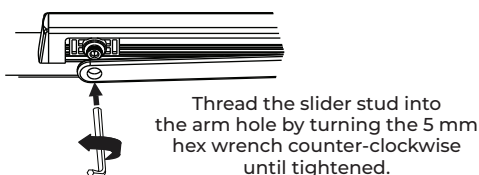


Figure 2 - Closing Power Control

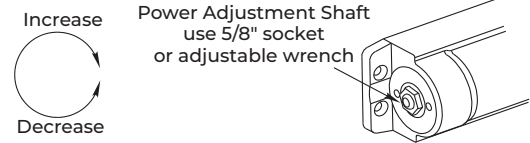


Figure 3 - Hydraulic Control

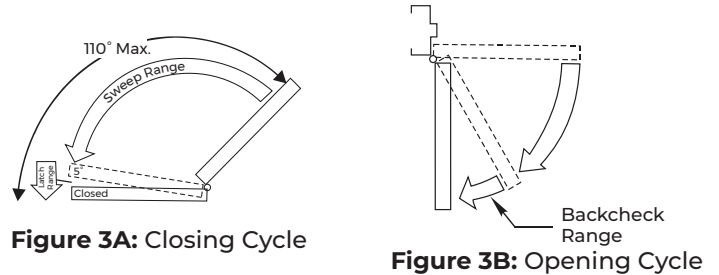


Figure 4 - Closing Speed

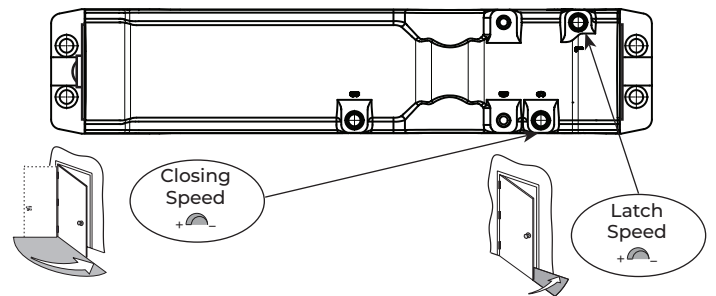


Figure 5 - Backcheck

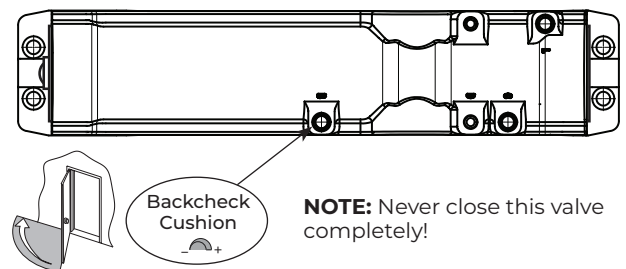
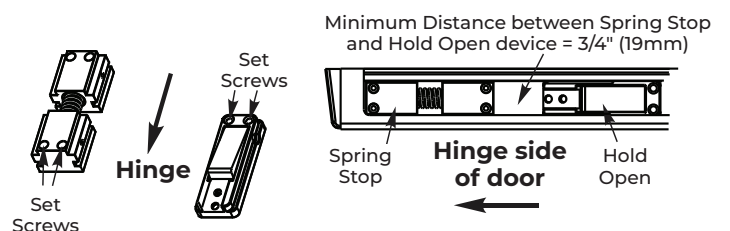


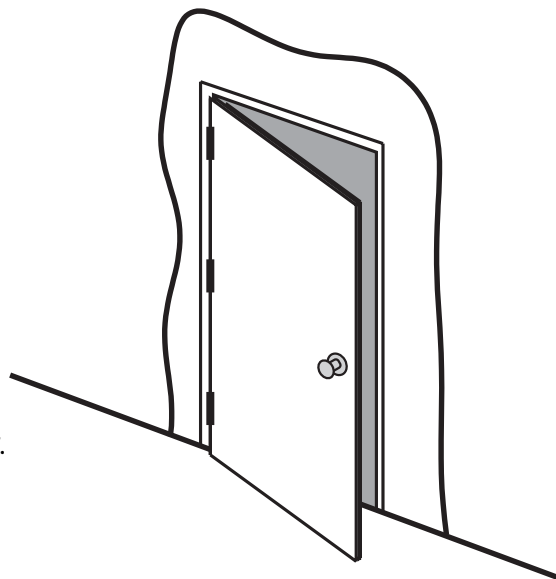
Figure 6 - Hold Open/Spring Stop



The ASSA ABLOY Group is the global leader in access solutions. Every day we help people feel safe, secure and experience a more open world.

Setup for Inclusive Restroom/Telephone Booth Function

1. Open the door to the desired "propped" position.
2. With the arm parallel to the door, insert the spline shaft into the closer body.
3. Secure the arm to the slider stud using the 5mm hex wrench. Rotate counter-clockwise until tightened (see figure 1 on page 7).
4. Slide the spline vertically in or out of the closer up to 1/2" until arm is parallel to the track. Install plastic bushing on opposite side of spline shaft with the black screw provided.
5. Slowly open the "C" and "L" valves on the closer body.
6. Adjust closer power. See Power Adjustment Chart on page 2, closer valves and hold open device (for 2800STH models) on page 7.



Technical Product Support:
Monroe, NC 28112 USA
Phone: 877.974.2255 ext: 2
Techsupport.NortonRixson@assaabloy.com
NortonRixson.com

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Approved 2024-02-26

Product Information

Product Lines - Coved Wall Base & Sculptured Wall Base

Construction - Thermoplastic Rubber

Product Specifications - Coved Wall Base - ASTM F1861, Type TP, Group 1, Style B

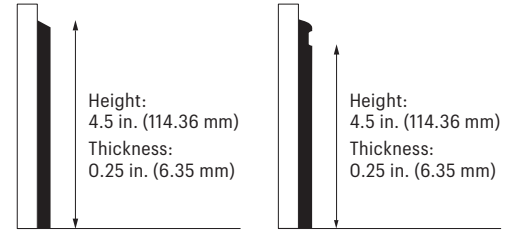
Sculptured Wall Base - ASTM F1861, Type TP, Group 1, Style A

Overall Thickness - Coved Wall Base - 0.125 in. (3.18 mm)

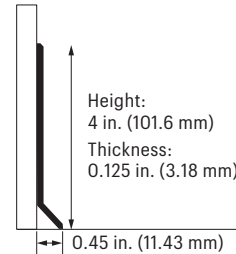
Sculptured Wall Base - 0.25 in. (6.35 mm)

Installation - S-725 Wall Base Adhesive

Product Structures



Sculptured Wall Base



Coved Wall Base

Packaging

Products	Height	Feet per Carton	Feet per Carton
Coved - Sticks	4.0 in. (101.6 mm)	120 lin. ft. (36.57 m)	30
Coved - Rolls			1
Sculptured	4.5 in. (114.3 mm)	48 lin. ft. (14.63 m)	6

Testing

Performance	Test Method	Requirement	Performance vs. Requirement
Composition of Materials	Certificate of Compliance	As specified	Meets
Wear Layer Thickness	ASTM F410	≥ 0.002 in.	Meets
Flexibility	ASTM F137	¼ inch mandrel no cracks or breaks in wear surface	Meets
Staining of adjacent surfaces induced by wall base	ASTM F1861 Section 12	No staining of adjacent surfaces	Meets
Resistance to Light	ASTM F 1515	Max. avg. $\Delta E \leq 8$	Meets
Resistance to Chemicals	ASTM F 925	No more than slight change in surface dulling, attack or staining	Meets
Dimensional Stability	ASTM F1861 Section 12	±0.25%	Meets
Height	ASTM F1861 Section 9	As specified, ±1% of nominal height	Meets
Thickness	ASTM F386	As specified, 0.080 in. +0.015/ -0.005 in. 0.25 in. + 0.015/ -0.015 in.	Meets
Length	ASTM F1861 Section 9	As specified, no less than nominal value	Meets
Additional Testing			
Fire Test Data – Flame Spread	ASTM E 648	0.45 W/cm ² or more Class I	Meets
Fire Test Data – Smoke Evolution	ASTM E 662	450 or less	Meets

Sustainability

Certification Attribute	Standard	Feet per 3rd party Certification/Certifier
Low-Emitting Material	CDPH v1.2 (2017) a.k.a CHPS 01350	FloorScore®/SCS
Low-Emitting Adhesive (S-725)	CDPH v1.2 (2017) a.k.a CHPS 01350	FloorScore®/SCS

Sustainability Continued

Performance	Standard	Requirements	Performance vs. Requirements
TVOC Range	CDPH v1.2 (2017) a.k.a CHPS 01350	<0.5 mg/m³	Meets
Low Emitting Adhesives (S-725)	SCAQMD Rule #1168	Less than 50 g/L	S-725 Exceeds - 0 g/L
Fundamental Material Safety Toxic Material Reduction	WELL™ Feature 11 and 25	No asbestos, free of lead and phthalates (DEHP, DBP, BBP, DIDP, DNOP)	Meets

Limited Warranty

5-year Commercial Warranty when installed in strict accordance with the detailed instructions at ArmstrongFlooring.com.

4 ft. Sticks - R41XX
Roll Cove - R48XX

					
R41SL R48SL Salt R53SL R52SL Salt ♦	R41PR R48PRI parchment R53PR R52PR parchment ♦	R41CI R48CI classic ivory R53CI R52CI classic ivory ♦	R41DS R48DS Desert	R41ES R48ES Essential Sand	R41CM R48CM Camel
					
R41CR R48CR Carbon Beige R53CR R52CR Carbon Beige ♦	R41PB R48PB Pebble	R41GR R48GR Greige	R41FX R48FX Flax	R41TR R48TR Turmeric	R41SD R48SD Saddle
					
R41BH R48BH Buffalo Hide	R41ML R48ML Molasses R53ML R52ML Molasses ♦	R41WB R48WB Warm Black	R41FS R48FS Flagstone	R41EB R48EB Ebony R53EB R52EB Ebony ♦	R41ND R48ND Indigo
					
R41GM R48GM Gray Mist	R41SW R48SW Stonewash	R41MG R48MG Metal Gray	R41SG R48SG Smokey Gray R53SG R52SG Smokey Gray ♦	R41CG R48CG Coastal Green	R41AN R48AN Almost Navy

♦ Available in Sculptured Wall Base
Profile 1 - R53XX
Profile 2 - R52XX

Visit ArmstrongFlooring.com

for complete Product, Technical, Adhesives, Installation & Maintenance recommendations.

FP7440F10440-921

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Staccato™

20" top-mount single-bowl bar sink
K-3363-1

Features

- 22" (559 mm) minimum base cabinet width
- Single bowl
- 8" (203 mm) depth
- Single faucet hole
- Includes installation hardware

Material

- Premium 18-gauge stainless steel

Installation

- Top-mount

Recommended Products/Accessories

- K-8801 Sink drain and strainer with tailpiece
- K-8799 Sink drain and strainer basket
- K-23726 Drain treatment
- K-23729 Stainless steel cleaner

Optional Products/Accessories

- K-11352 Disposal Flange with Stopper



ADA

Codes/Standards

ASME A112.19.3/CSA B45.4
ADA
ICC/ANSI A117.1
IAPMO Certification

KOHLER® One-Year Limited Warranty

See website for detailed warranty information.

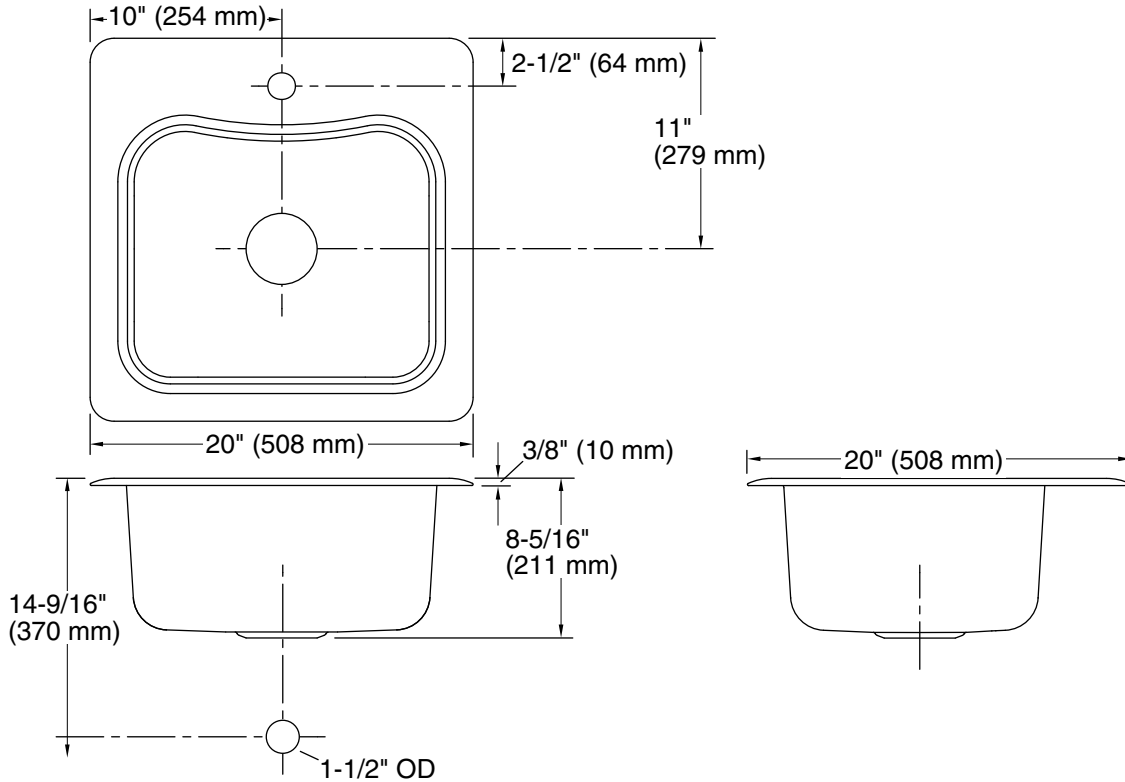
1-800-4KOHLER (1-800-456-4537)

Kohler Co. reserves the right to make revisions without notice to product specifications.

For the most current Specification Sheet, go to www.kohler.com USA or www.kohler.ca Canada

7-3-2024 20:52 - US

THE BOLD LOOK
OF **KOHLER**®



Technical Information

All product dimensions are nominal.

Bowl configuration:	Single
Cutout:	Top-mount, 19-1/2" x 1" (495 mm x 25 mm) with 19-1/2" (495 mm) radius corners
Bowl area (Only):	Length: 16-1/8" (410 mm) Width: 13-9/16" (345 mm) Bowl depth: 8" (203 mm) Water depth: 8" (203 mm)
Number of deck holes:	1
Faucet hole(s):	1-7/16" (37 mm)
Drain hole:	3-5/8" (92 mm)

Notes

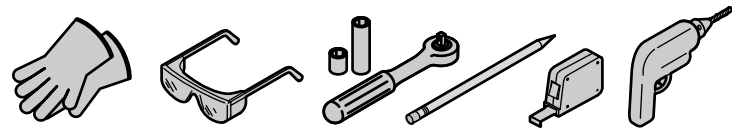
Install this product according to the installation instructions.

ADA compliant when installed to the specific requirements of these regulations.

ADA permits a parallel approach to wet bars.

KOHLER®

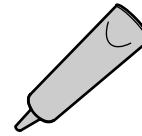
Installation Guide
Guide d'installation
Guía de instalación



1/2" or larger Drill Bit
Mèche de 1/2" ou plus large
Broche de 1/2" o mayor



Jigsaw
Scie sauteuse
Sierra caladora eléctrica



Silicone Sealant
Joint en silicone
Sellador de silicona



Rags
Chiffons
Trapos

⚠ WARNING: Risk of personal injury.
Metal edges are sharp and can cause severe cuts. Wear gloves when handling the sink.

⚠ ADVERTISSEMENT: Risque de blessures.
Les rebords en métal sont tranchants et peuvent causer des coupures graves. Porter des gants lors de la manipulation de l'évier.

⚠ ADVERTENCIA: Riesgo de lesiones personales.
Los filos metálicos son cortantes y pueden producir cortaduras graves. Utilice guantes para manejar el fregadero.

1 Position and trace the sink.
Placer et tracer l'évier.
Coloque y trace el fregadero.

2 Draw the cut-out line 1/4" (6 mm) inside the sink outline.
Tracer la ligne de découpe à 1/4" (6 mm) sur le pourtour intérieur de l'évier.
Trace la línea de corte 1/4" (6 mm) dentro del contorno del fregadero.

Sink Outline
Pourtour de l'évier
Contorno del fregadero

3 Drill a pilot hole and cut the countertop opening along the inside line.
Perçer un trou pilote et découper l'ouverture du comptoir le long de la ligne intérieure.
Taladre un orificio guía y corte la abertura en la encimera a lo largo de la línea.

4 Verify the fit. Adjust the cutout if needed. If possible, install the faucet to the sink prior to installing the sink.
Vérifier l'ajustement. Ajuster la découpe, si nécessaire. Si possible, installer le robinet sur l'évier avant d'installer ce dernier.
Verifique que quede bien. Ajuste la abertura si es necesario. De ser posible, instale la grifería al fregadero antes de instalar el fregadero.

5 Slide the clips into the track. Position the clips in each corner and space evenly around the sink. Turn the studs to secure.
Faire glisser les supports dans le rail. Placer les supports dans chaque coin et les espacer uniformément autour de l'évier. Faire tourner les montants pour les fixer.
Deslice los clips en el carril. Coloque los clips en cada esquina y espaciados uniformemente alrededor del fregadero. Gire las varillas roscadas para asegurar.

6 Apply silicone sealant around the underside of the sink rim.
Appliquer du mastic à la silicone sur le dessous du rebord de l'évier.
Aplique sellador de silicona alrededor del lado inferior del borde del fregadero.

7 Position the sink. Rotate the clips. Evenly tighten the nuts. **Do not overtighten!** Adjust the clip positions to remove gaps.
Placer l'évier. Faire pivoter les supports. Serrer les écrous de manière uniforme. **Ne pas trop serrer!** Ajuster le placement des supports pour éliminer les écarts.
Coloque el fregadero. Gire los clips. Apriete uniformemente las tuercas. **¡No apriete demasiado!** Ajuste las ubicaciones de los clips para eliminar las separaciones.

8 Apply silicone sealant around the sink rim and immediately wipe away any excess sealant.
Appliquer du mastic à la silicone autour du rebord de l'évier et essuyer immédiatement tout surplus.
Aplique sellador de silicona alrededor del borde del fregadero y limpie inmediatamente el exceso de sellador.

9 Install the strainers.
Installer les crépines.
Instale las coladeras.

10 Connect the trap to the drain. Complete the faucet connections. Run water and check for leaks.
Raccorder le siphon au drain. Terminer le raccordement du drain. Faire couler l'eau et rechercher la présence de fuites.
Conecte la trampa al desagüe. Termine las conexiones de la grifería. Haga correr agua y verifique que no haya fugas.

Features

- High-arch swing spout with 150° rotation offers superior clearance for filling pitchers, chilling bottles, and cleanup
- Single lever handle makes adjusting water temperature easy.
- Temperature memory allows faucet to be turned on and off at the temperature set during prior usage
- KOHLER® ceramic disc valves exceed industry longevity standards for a lifetime of durable performance
- 1.5 gpm (5.7 lpm) maximum flow rate at 60 psi (4.14 bar)

Material

- Premium metal construction for durability and reliability
- KOHLER® finishes resist corrosion and tarnishing

Installation

- Single-hole or three-hole installation (escutcheon plate included)
- Flexible supply lines simplify installation

Adapters, Rough-in and Extension Kits

1327990 Range: 2-1/2" (64 mm) - 4-13/16" (122 mm)

Recommended Products/Accessories

- K-77685 Single-cartridge water filtration system
- K-77686 Double-cartridge water filtration system
- K-77687 single replacement filter cartridge
- K-77688 Replacement Filter Cartridges, Two-Pack

Optional Products/Accessories

- 1012715 Kitchen Faucet Deep Rough-In Kit



ADA

CSA B651

Codes/Standards

ASME A112.18.1/CSA B125.1
NSF/ANSI/CAN 61
NSF/ANSI/CAN 372
All applicable US Federal and State material regulations
DOE - Energy Policy Act 1992
California Energy Commission (CEC)
ADA
ICC/ANSI A117.1
CSA B651
IAPMO Certification

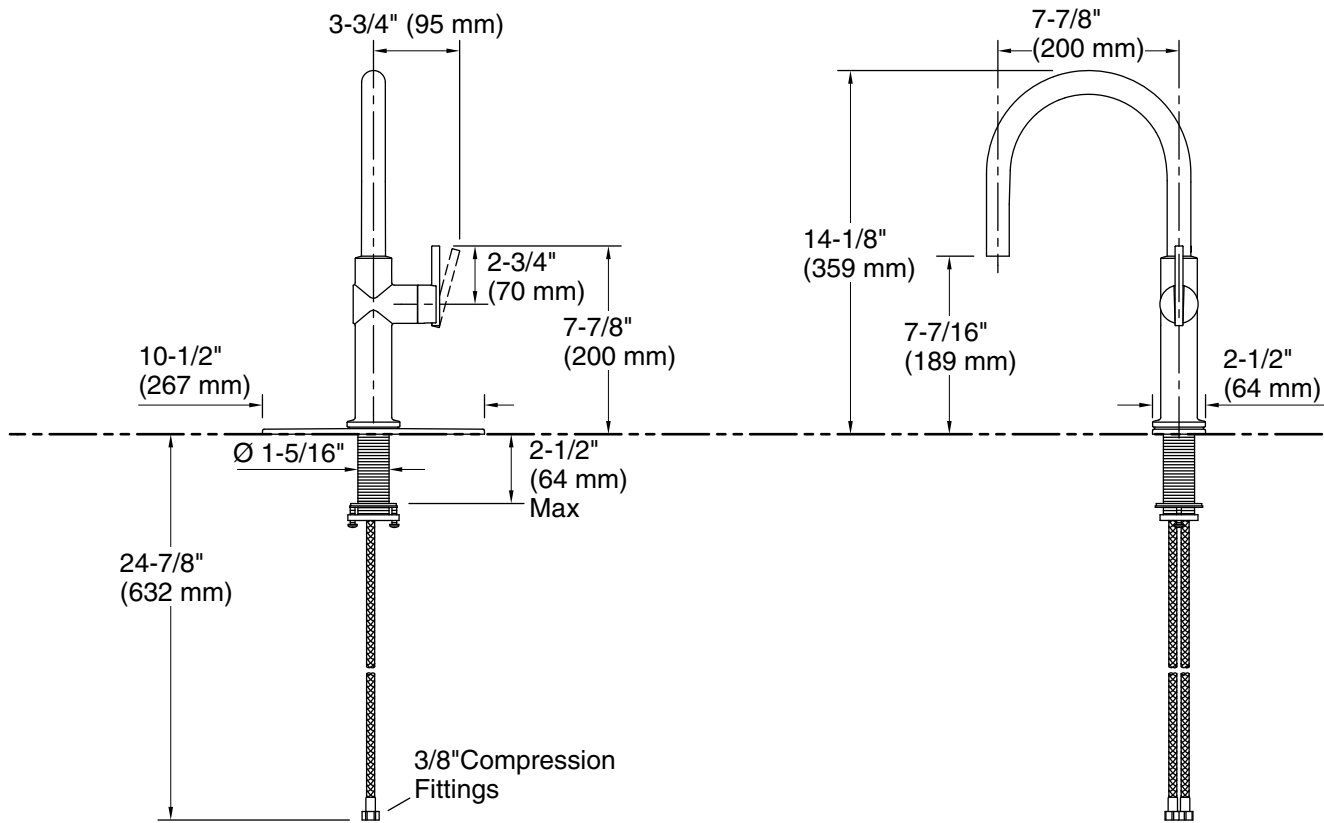
KOHLER® Faucet Lifetime Limited Warranty

See website for detailed warranty information.

Available Colors/Finishes

Color tiles intended for reference only.

Color	Code	Description
	CP	Polished Chrome
	VS	Vibrant® Stainless
	BL	Matte Black
	2MB	Vibrant® Brushed Moderne Brass



Technical Information

All product dimensions are nominal.

Faucet:

Flow rate: 1.5 gal/min (5.7 l/min)

Drain included: No

Spout:

Spout reach: 7-7/8" (200 mm)

Pressure/fixture Supply Requirements

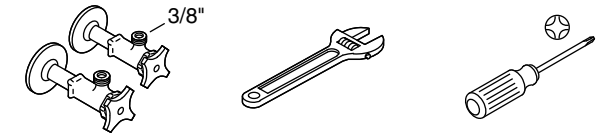
Fixture pressure max (static): 125 psi (861.8 kPa)

Fixture pressure min (static): 20 psi (137.9 kPa)

Notes

Install this product according to the installation instructions.

ADA, CSA B651 compliant when installed to the specific requirements of these regulations.

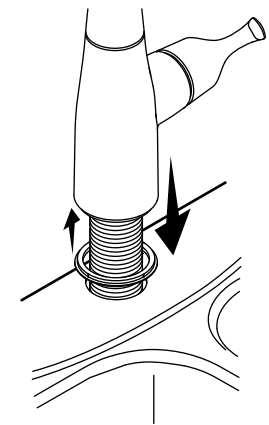


Record your model number below for future reference:
Noter le numéro de modèle ci-dessous pour référence ultérieure:
Anote abajo el número de su modelo como referencia futura:

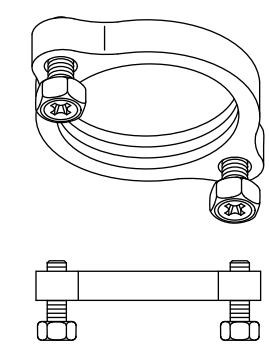
For service parts information, visit kohler.com/serviceparts.
For care and cleaning and other information, visit us.kohler.com.
Pour tout renseignement sur les pièces de rechange, visiter le site kohler.com/serviceparts.
Pour tout renseignement sur l'entretien, le nettoyage et autre, visiter le site us.kohler.com.
Para consultar información sobre piezas de repuesto, visite kohler.com/serviceparts.
Para consultar información de cuidado y limpieza y de otro tipo, visite us.kohler.com.

Important Information
 For new installations, assemble the faucet to the sink before installing the sink.
 Observe all local codes.
Informations importantes
 Pour de nouvelles installations, assembler le robinet sur l'évier avant d'installer ce dernier.
 Respecter tous les codes locaux.
Información importante
 En instalaciones nuevas, ensamble la grifería al fregadero antes de instalar el fregadero.
 Cumpla todos los códigos locales.

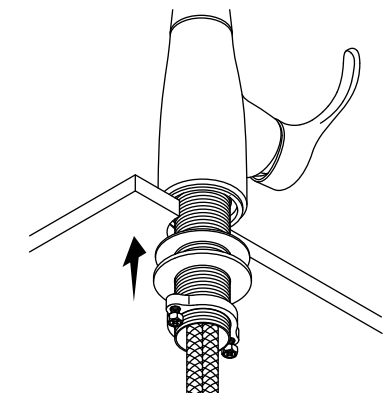
1 Press the bottom plate into the groove. Insert the spout.
 Enfoncez la plaque inférieure dans la rainure. Insérer le bec.
 Oprima la placa inferior contra la ranura. Introduzca el surtidor.



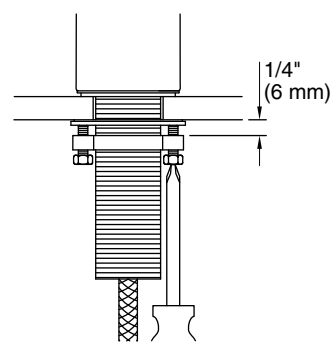
2 Partially thread the screws as shown.
 Enfiler partiellement les vis comme sur l'illustration.
 Enrosque parcialmente los tornillos, como se ilustra.



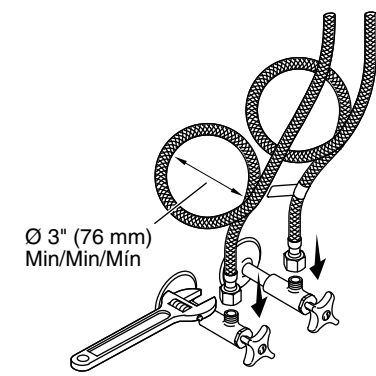
3 Loosely fasten the spout with the washer and threaded spout ring.
 Attacher le bec avec la rondelle et l'anneau fileté du bec, sans serrer.
 Apriete sin mucha fuerza el surtidor con la arandela y el anillo del surtidor roscado.



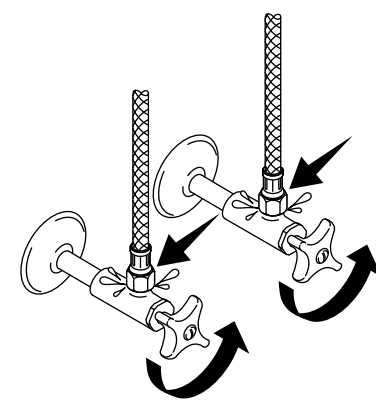
4 Position the screws to the front and back. Tighten the screws.
 Placer les vis sur l'avant et l'arrière. Serrer les vis.
 Los tornillos deben quedar enfrente y atrás. Apriete los tornillos.



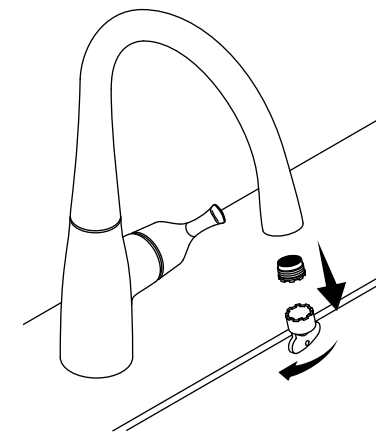
5 Connect and tighten the supply hoses. **Do not kink the hoses!**
 Connecter et serrer les tuyaux d'alimentation. **Ne pas entortiller les tuyaux!**
 Conecte y apriete las mangueras de suministro. **¡No doble las mangueras!**



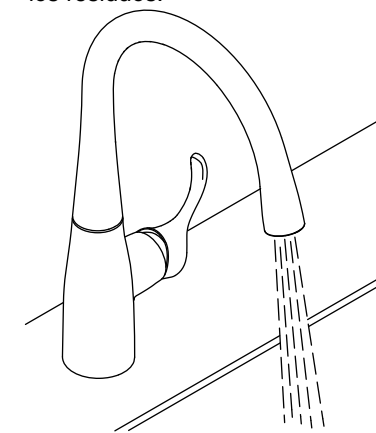
6 Turn on the water supplies and check for leaks.
 Ouvrir les alimentations en eau et rechercher des fuites éventuelles.
 Abra los suministros de agua y verifique que no haya fugas.



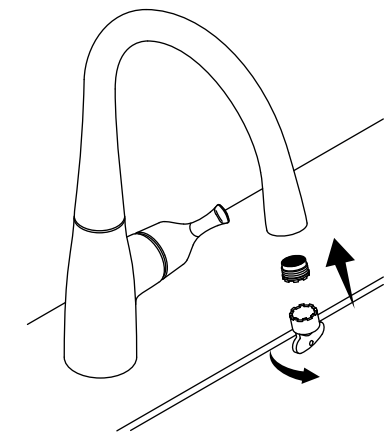
7 Use the key to remove the aerator.
 Utiliser la clé pour retirer l'aérateur.
 Retire el aireador con la llave.



8 Run water through the faucet to flush any debris.
 Faire couler de l'eau à travers le robinet pour éliminer les débris.
 Deje correr agua a través de la grifería para eliminar las suciedad y los residuos.



9 Use the key to reinstall the aerator.
 Utiliser la clé pour réinstaller l'aérateur.
 Con la llave vuelva a instalar el aireador.



Need help? Contact the KOHLER Customer Care Center at 1-800-4KOHLER (1-800-456-4537).

For service parts information, visit kohler.com/serviceparts.

For care and cleaning and other information, visit us.kohler.com.

KOHLER® Faucet Lifetime Limited Warranty

Kohler Co. warrants its Faucets* manufactured after January 1, 1997, to be leak and drip free during normal residential use for as long as the original consumer purchaser owns his or her home. If the Faucet should leak or drip during normal use, Kohler Co. will, free of charge, mail to the purchaser the cartridge necessary to put the Faucet in good working condition. This warranty applies only to Kohler Faucets installed in the United States of America, Canada or Mexico ("North America").

Kohler Co. also warrants all other aspects of the faucet or accessories ("Faucet")*, (except gold, non-Vibrant®, non-chrome finishes) to be free of defects in material and workmanship during normal residential use for as long as the original consumer purchaser owns his or her home. This warranty applies only to Kohler Faucets installed in North America. If a defect is found in normal residential use, Kohler Co. will, at its election, repair, provide a replacement part or product, or make appropriate adjustment. Damage to a product caused by accident, misuse, or abuse is not covered by this warranty. Improper care and cleaning will void the warranty**. Proof of purchase (original sales receipt) must be provided to Kohler Co. with all warranty claims. Kohler Co. is not responsible for labor charges, installation, or other incidental or consequential costs. In no event shall the liability of Kohler Co. exceed the purchase price of the Faucet.

If the Faucet is used commercially or is installed outside of North America, or if the finish is gold, non-Vibrant or a painted or powder coated color finish, Kohler Co. warrants the Faucet to be free from defects in material and workmanship for one (1) year from the date the product is installed, under Kohler Co.'s standard one-year limited warranty.

If you believe that you have a warranty claim, contact Kohler Co., either through your Dealer, Plumbing Contractor, Home Center or E-tailer, or by writing Kohler Co., Attn.: Customer Care Center, 444 Highland Drive, Kohler, WI 53044, USA. Please be sure to provide all pertinent information regarding your claim, including a complete description of the problem, the product, model number, color, finish, the date the product was purchased and from whom the product was purchased. Also include your original invoice. For other information, or to obtain the name and address of the service and repair facility nearest you, call 1-800-4-KOHLER (1-800-456-4537) from within the USA and Canada, and 001-800-456-4537 from within Mexico, or visit www.kohler.com within the USA, www.ca.kohler.com from within Canada, or www.mx.kohler.com in Mexico.

KOHLER CO. AND/OR SELLER ARE PROVIDING THESE WARRANTIES IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. KOHLER CO. AND/OR SELLER DISCLAIM ALL LIABILITY FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Some states/provinces do not allow limitations of how long an implied warranty lasts or the exclusion or limitation of such damages, so these limitations and exclusions may not apply to you. This warranty gives the consumer specific legal rights. You may also have other rights that vary from state/province to state/province.

This is Kohler Co.'s exclusive written warranty.

*Trend® faucets, MasterShower® tower, BodySpa systems and components; WaterHaven® tower, systems and components; Tripoint® faucets, Polished Gold, non-Vibrant and painted or powder coated finishes, fittings; all items within the "Fixture Related" section of the Kohler Faucets Price Book, drains, Duostrainer® sink strainers, soap/lotion dispensers, Moxie® Wireless Speaker; and faucets used in commercial settings, and outside North America, are covered by Kohler Co.'s one-year limited warranty.

**Never use cleaners containing abrasive cleansers, ammonia, bleach, acids, waxes, alcohol, solvents or other products not recommended for chrome. This will void the warranty.

USA/Canada: 1-800-4KOHLER

Mexico: 001-800-456-4537

www.kohler.com

Besoin d'aide? Appeler le centre de services à la clientèle de KOHLER au 1-800-4KOHLER (1-800-456-4537).

Pour tout renseignement sur les pièces de rechange, visiter le site kohler.com/serviceparts.

Pour tout renseignement sur l'entretien, le nettoyage et autre, visiter le site us.kohler.com.

Garantie limitée à vie du robinet KOHLER®

Kohler Co. garantit que les robinets* fabriqués après le 1er janvier 1997 ne fuient pas et ne gouttent pas lors d'une utilisation domestique normale, aussi longtemps que l'acqureur d'origine demeure propriétaire de son domicile. Si le robinet goutte ou présente des fuites lors d'une utilisation normale, Kohler Co. enverra par courrier à l'acheteur, sans frais, la cartouche nécessaire pour réparer le robinet. La présente garantie s'applique uniquement aux robinets Kohler installés aux États-Unis, au Canada ou au Mexique ("Amérique du Nord").

Kohler Co. garantit également toutes les autres caractéristiques du robinet ou des accessoires ("Robinet")*, (à l'exception des finitions dorées, non-Vibrant®, non chromées) contre tout vice de matériau et de fabrication lors d'une utilisation domestique normale, aussi longtemps que l'acqureur d'origine demeure propriétaire de son domicile. La présente garantie s'applique uniquement aux robinets Kohler installés en Amérique du Nord. Si un vice est décelé lors d'une utilisation domestique normale, Kohler Co. choisira, à sa discrétion, la réparation, le remplacement ou la rectification appropriée. Cette garantie n'offre pas de protection contre les dommages dus à un accident, une mauvaise utilisation ou un mauvais traitement. Un entretien et un nettoyage inadéquats annulent la garantie**. Une preuve d'achat (ticket de caisse d'origine) doit être présentée à Kohler Co. avec toutes les réclamations au titre de la garantie. Kohler n'est pas responsable des frais de main-d'œuvre, d'installation ou de tous autres frais particuliers, accessoires ou indirects. La responsabilité de Kohler Co. ne dépassera en aucun cas le prix d'achat du robinet.

Si le robinet est utilisé dans un commerce ou s'il est installé en dehors d'Amérique du Nord, ou si la finition est dorée, non-Vibrant, peinte ou revêtue d'une poudre, Kohler Co. garantit le robinet contre tout vice de matériau et de fabrication pendant un (1) an à partir de la date d'installation du produit, selon les modalités de la garantie limitée standard d'un an de Kohler Co.

Pour toute réclamation au titre de la présente garantie, contacter Kohler Co. par l'intermédiaire du vendeur, plombier, centre de rénovation ou revendeur par internet, ou bien par écrit à l'adresse suivante Kohler Co., Attn.: Customer Care Center, 444 Highland Drive, Kohler, WI 53044, USA. Fournir tous les renseignements pertinents à la réclamation, dont notamment une description complète du problème et du produit, le numéro de modèle, la couleur, la finition, la date et le lieu d'achat du produit. Joindre également l'original de la facture. Pour de plus amples renseignements, ou pour obtenir le nom et l'adresse de l'établissement d'entretien et de réparation le plus proche, appeler le 1-800-4-KOHLER (1-800-456-4537) à partir des É.-U. et du Canada, et le 001-800-456-4537 à partir du Mexique, ou consulter le site www.kohler.com à partir des É.-U., www.ca.kohler.com à partir du Canada, ou www.mx.kohler.com au Mexique.

KOHLER CO. ET/OU LE REVENDEUR FOURNISSENT CES GARANTIES AU LIEU ET PLACE DE TOUTES AUTRES GARANTIES, EXPRESSES OU TACITES, Y COMPRIS LES GARANTIES TACITES DE COMMERCIALITÉ ET D'ADAPTATION À UN USAGE PARTICULIER. KOHLER CO. ET/OU LE REVENDEUR DÉCLINENT TOUTE RESPONSABILITÉ CONTRE LES DOMMAGES PARTICULIERS, ACCESSOIRES OU INDIRECTS. Certains états et provinces ne permettent pas de limite sur la durée de la garantie tacite, ni l'exclusion ou la limite de tels dommages, et, par conséquent, lesdites limites et exclusions peuvent ne pas s'appliquer à votre cas. La présente garantie accorde au consommateur des droits juridiques particuliers. Vous pouvez également avoir d'autres droits qui varient d'un état ou d'une province à l'autre.

Ceci constitue la garantie écrite exclusive de Kohler Co.

*Les robinets Trend®, la colonne MasterShower®, les systèmes et éléments BodySpa; la colonne, les systèmes et les éléments WaterHaven®; les robinets Tripoint®, les finitions ou poli, non-Vibrant et peintes ou à revêtement de poudre, les raccords, tous les articles de la section "Fixture Related" du catalogue des prix des robinets Kohler, les drains, les crépines d'évier Duostrainer®, les distributeurs de savon/lotion, le haut-parleur sans fil Moxie® et les robinets utilisés dans des installations commerciales et en dehors de l'Amérique du Nord sont couverts par la garantie limitée d'un an de Kohler Co.

**Ne jamais utiliser de nettoyeurs contenant des agents abrasifs, de l'ammoniaque, de l'eau de Javel, des acides, des cires, de l'alcool, des dissolvants ou autres produits non recommandés pour le chrome. Ceci annulera la garantie.

¿Necesita ayuda? Comuníquese con el Centro de Atención a Clientes de KOHLER al 1-800-4KOHLER (1-800-456-4537).

Para consultar información sobre piezas de repuesto, visite kohler.com/serviceparts.

Para consultar información de cuidado y limpieza y de otro tipo, visite us.kohler.com.

Garantía limitada de por vida para la grifería KOHLER®

Kohler Co. garantiza sus griferías* fabricadas después del 1.º de enero de 1997 contra problemas de fugas y goteo durante el uso residencial normal, mientras el comprador consumidor original sea el propietario de su casa. En caso de que la grifería presente fugas o goteo durante el uso normal, Kohler Co. enviará por correo, y sin ningún cargo al comprador original, el cartucho necesario para que la grifería funcione correctamente. Esta garantía se aplica solo a la grifería Kohler instalada en los Estados Unidos de América, Canadá o México ("Norteamérica").

Kohler Co. también garantiza todas las demás características de la grifería o de los accesorios ("Grifería")*, (excepto los acabados de oro, que no sean Vibrant®, o que no sean de cromo) contra defectos de material y mano de obra, durante el uso residencial normal, mientras el comprador consumidor original sea el propietario de su casa. Esta garantía se aplica solo a la grifería Kohler instalada en Norteamérica. Si se llegara a encontrar algún defecto durante el uso residencial normal, Kohler Co., a su criterio, reparará, proveerá un repuesto o producto, o realizará los ajustes pertinentes. Esta garantía no cubre daños causados por accidentes, abuso o uso indebido del producto. El cuidado y la limpieza indebidos anulan la garantía.** Al presentar las reclamaciones de garantía a Kohler Co. es necesario incluir el comprobante de compra (recibo de venta original). Kohler Co. no se hace responsable de costos de mano de obra, instalación u otros costos incidentales o indirectos. En ningún caso la responsabilidad de Kohler Co. excederá el precio de compra de la grifería.

Si la grifería se utiliza comercialmente o si se instala fuera del territorio de Norteamérica, o si el acabado es de oro, no es Vibrant o es un acabado de color con revestimiento de pintura o polvo, Kohler Co. garantiza la grifería contra defectos de material y mano de obra durante un (1) año a partir de la fecha de instalación, bajo la garantía limitada de un año estándar de Kohler Co.

Si usted considera que tiene una reclamación en virtud de la garantía, comuníquese con Kohler Co. a través de su distribuidor, contratista de plomería, centro de remodelación o distribuidor por Internet, o escriba a Kohler Co., Atención: Customer Care Center, 444 Highland Drive, Kohler, WI 53044, EE.UU. Asegúrese de proporcionar toda la información pertinente a su reclamación, incluida una descripción completa del problema, el producto, el número de modelo, el color, el acabado, la fecha de compra y el lugar de compra del producto. También incluya el recibo original. Para consultar información adicional, o para obtener el nombre y la dirección del lugar de reparación y servicio más cercano a usted, llame al 1-800-4KOHLER (1-800-456-4537) en los EE.UU. y Canadá, y al 001-800-456-4537 en México, o visite www.kohler.com en los EE.UU., www.ca.kohler.com en Canadá, o www.mx.kohler.com en México.

KOHLER CO. Y/O EL VENDEDOR OFRECEN ESTAS GARANTÍAS QUE SUSTITUYEN A TODAS LAS DEMÁS GARANTÍAS, EXPRESAS O IMPLÍCITAS, INCLUIDAS, ENTRE OTRAS, LAS GARANTÍAS IMPLÍCITAS DE COMERCIALIZACIÓN E IDONEIDAD PARA UN USO DETERMINADO. KOHLER CO. Y/O EL VENDEDOR DESCARGAN TODA RESPONSABILIDAD POR CONCEPTO DE DAÑOS PARTICULARES, INCIDENTALES O INDIRECTOS. Algunos estados/algunas provincias no permiten limitaciones en cuanto a la duración de una garantía implícita o a la exclusión o limitación de dichos daños, por lo que es posible que estas limitaciones y exclusiones no se apliquen a su caso. Esta garantía otorga al consumidor ciertos derechos legales específicos. Además, usted puede tener otros derechos que varían de estado a estado y de provincia a provincia.

Esta es la garantía exclusiva por escrito de Kohler Co.

*La grifería Trend®, la torre MasterShower®, los sistemas y los componentes BodySpa, la torre, los sistemas y los componentes WaterHaven®, las griferías Tripoint®, el acabado en oro pulido, que no sea Vibrant, y los acabados con revestimiento de pintura o en polvo, las conexiones, todos los artículos contenidos en la sección "Fixture Related" de la lista de precios de la grifería Kohler, los desagües, las coladeras de fregadero Duostrainer®, los dispensadores de jabón y loción, la bocina inalámbrica Moxie®, y la grifería de uso comercial e instalada fuera del territorio de Norteamérica, están cubiertos por la garantía limitada de un año de Kohler Co.

**Nunca utilice limpiadores que contengan abrasivos, amoníaco, blanqueador, ácidos, ceras, alcohol, disolventes u otros productos no recomendados para el cromo. Esto anula la garantía.



Glidden® Diamond® Interior Paint And Primer

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SHEEN

ULTRA FLAT, FLAT, EGGSHELL, SATIN, SEMI GLOSS

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SAFETY DATA SHEET



Date of issue/Date of revision 14 August 2023

Version 14

Section 1. Identification

Product name : PPG53-410 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN PURE WHITE
Product code : 00380278
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Consumer applications, Professional applications.
Use of the substance/mixture : Coating.
Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
SETIQ Interior de la República: 800-00-214-00 (México)
SETIQ Ciudad de México: (55) 5559-1588 (México)

Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : CARCINOGENICITY - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 21.6% (oral), 24.8% (dermal), 23.5% (inhalation)

This product contains TiO₂ which has been classified as a GHS Carcinogen Category 2 based on its IARC 2B classification. For many products, TiO₂ is utilized as a raw material in a liquid coating formulation. In this case, the TiO₂ particles are bound in a matrix with no meaningful potential for human exposure to unbound particles of TiO₂ when the product is applied with a brush or roller. Sanding the coating surface or mist from spray applications may be harmful depending on the duration and level of exposure and require the use of appropriate personal protective equipment and/or engineering controls (see Section 8).


GHS label elements

Product code 00380278

Date of issue 14 August 2023 Version 14

Product name PPG53-410 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN PURE WHITE

Section 2. Hazards identification

Hazard pictograms	:	
Signal word	:	Warning
Hazard statements	:	Suspected of causing cancer.
<u>Precautionary statements</u>		
Prevention	:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection.
Response	:	IF exposed or concerned: Get medical advice or attention.
Storage	:	Store locked up.
Disposal	:	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	:	Contains isothiazolinones. May cause allergic reaction. Emits toxic fumes when heated.
Hazards not otherwise classified	:	None known.

Section 3. Composition/information on ingredients

Substance/mixture	:	Mixture
Product name	:	PPG53-410 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN PURE WHITE

Ingredient name	%	CAS number
Titanium dioxide	≥10 - ≤20	13463-67-7
Kaolin	≥1.0 - ≤5.0	1332-58-7

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact	:	Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
-------------	---	---

Section 4. First aid measures

- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon oxides
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Product code 00380278

Date of issue 14 August 2023 **Version** 14

Product name PPG53-410 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN PURE WHITE

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Special precautions** : If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store below the following temperature: 5°C (41°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Titanium dioxide	OSHA PEL (United States, 5/2018). TWA: 15 mg/m ³ 8 hours. Form: Total dust
	ACGIH TLV (United States, 1/2022). TWA: 2.5 mg/m ³ 8 hours. Form: respirable fraction, finescale particles
Kaolin	ACGIH TLV (United States, 1/2022). TWA: 2 mg/m ³ 8 hours. Form: Respirable fraction
	OSHA PEL (United States, 5/2018). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction
	TWA: 15 mg/m ³ 8 hours. Form: Total dust

Key to abbreviations

A	= Acceptable Maximum Peak	S	= Potential skin absorption
ACGIH	= American Conference of Governmental Industrial Hygienists.	SR	= Respiratory sensitization
C	= Ceiling Limit	SS	= Skin sensitization
F	= Fume	STEL	= Short term Exposure limit values
IPEL	= Internal Permissible Exposure Limit	TD	= Total dust
OSHA	= Occupational Safety and Health Administration.	TLV	= Threshold Limit Value
R	= Respirable	TWA	= Time Weighted Average
Z	= OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances		

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Section 8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. The respiratory protection shall be in accordance to 29 CFR 1910.134.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : White.

Odor : Not available.

Odor threshold : Not available.

pH : 9

Melting point : Not available.

Boiling point : 100°C (212°F)

Flash point : Closed cup: Not applicable. [Product does not sustain combustion.]

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability : Not available.

Product code 00380278

Date of issue 14 August 2023 Version 14

Product name PPG53-410 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN PURE WHITE

Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits : Not available.

Evaporation rate : 0.05 (butyl acetate = 1)

Vapor pressure : 3.3 kPa (25 mm Hg)

Vapor density : Not available.

Relative density : 1.31

Density (lbs / gal) : 10.93

Solubility(ies) :

Media	Result
cold water	Soluble

Partition coefficient: n-octanol/water : Not applicable.

Viscosity : Kinematic (40°C (104°F)): >21 mm²/s (>21 cSt)

Volatility : 58% (v/v), 44.404% (w/w)

% Solid. (w/w) : 55.596

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Depending on conditions, decomposition products may include the following materials: carbon oxides metal oxide/oxides

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Titanium dioxide	LC50 Inhalation Dusts and mists	Rat	>6.82 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
Kaolin	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	>5.07 mg/l	4 hours
	LD50 Oral	Rat	>5000 mg/kg	-

Section 11. Toxicological information

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
Titanium dioxide	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4

NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen

OSHA: +

Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Target organs

Contains material which causes damage to the following organs: eyes.
Contains material which may cause damage to the following organs: lungs, upper respiratory tract, stomach.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Section 11. Toxicological information

Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Contains isothiazolinones. May cause allergic reaction. This product contains TiO₂ which has been classified as a GHS Carcinogen Category 2 based on its IARC 2B classification. For many products, TiO₂ is utilized as a raw material in a liquid coating formulation. In this case, the TiO₂ particles are bound in a matrix with no meaningful potential for human exposure to unbound particles of TiO₂ when the product is applied with a brush or roller. Sanding the coating surface or mist from spray applications may be harmful depending on the duration and level of exposure and require the use of appropriate personal protective equipment and/or engineering controls (see Section 8). If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.
Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.
Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : No known significant effects or critical hazards.
Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
PPG53-410 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN PURE WHITE	106824.0	N/A	N/A	N/A	N/A

Product code 00380278

Date of issue 14 August 2023 Version 14

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Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Product code 00380278	Date of issue 14 August 2023	Version 14
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14. Transport information

Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.
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Additional information

DOT : None identified.
IMDG : None identified.
IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not applicable.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are active or exempted.

United States - TSCA 5(a)2 - Proposed significant new use rules:

 (2H)-Isothiazolone, 2-methyl- Listed P-96-1250

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : CARCINOGENICITY - Category 2

Composition/information on ingredients

Name	%	Classification
titanium dioxide	≥10 - ≤20	CARCINOGENICITY - Category 2

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Product code 00380278

Date of issue 14 August 2023 **Version** 14

Product name PPG53-410 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN PURE WHITE

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 1 * **Flammability** : 0 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on MSDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)

Health : 1 **Flammability** : 0 **Instability** : 0

Date of previous issue : 3/31/2023

Organization that prepared the SDS : EHS

Key to abbreviations

: ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

▣ Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET



Date of issue/Date of revision 16 May 2024

Version 12

Section 1. Identification

Product name : PPG53-440 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN ULTRA DEEP BASE

Product code : 00380283

Other means of identification : Not available.

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Consumer applications, Professional applications.

Use of the substance/ mixture : Coating.

Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
SETIQ Interior de la República: 800-00-214-00 (México)
SETIQ Ciudad de México: (55) 5559-1588 (México)

Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 18.1% (oral), 25.8% (dermal), 18.1% (inhalation)

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Product code 00380283

Date of issue 16 May 2024

Version 12

Product name PPG53-440 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN
ULTRA DEEP BASE

Section 2. Hazards identification

Storage	: Not applicable.
Disposal	: Not applicable.
Supplemental label elements	: Contains isothiazolinones. May cause allergic reaction. Emits toxic fumes when heated.
Hazards not otherwise classified	: None known.

Section 3. Composition/information on ingredients

Substance/mixture	: Mixture
Product name	: PPG53-440 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN ULTRA DEEP BASE

Ingredient name	%	CAS number
Quartz Kaolin	≥5.0 - ≤10 ≥1.0 - ≤5.0	1317-65-3 1332-58-7

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact	: Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
Inhalation	: Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
Skin contact	: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
Ingestion	: If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: No known significant effects or critical hazards.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.

Section 4. First aid measures

Over-exposure signs/symptoms

Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: No specific data.
Ingestion	: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: No specific treatment.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon oxides
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders	: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Section 6. Accidental release measures

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
- Special precautions** : If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Do not store below the following temperature: 5°C (41°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
☑ Limestone	OSHA PEL (United States, 5/2018). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction
Kaolin	TWA: 15 mg/m ³ 8 hours. Form: Total dust ACGIH TLV (United States, 7/2023). TWA: 2 mg/m ³ 8 hours. Form: Respirable fraction OSHA PEL (United States, 5/2018).

Section 8. Exposure controls/personal protectionTWA: 5 mg/m³ 8 hours. Form: Respirable fractionTWA: 15 mg/m³ 8 hours. Form: Total dust**Key to abbreviations**

A	= Acceptable Maximum Peak	S	= Potential skin absorption
ACGIH	= American Conference of Governmental Industrial Hygienists.	SR	= Respiratory sensitization
C	= Ceiling Limit	SS	= Skin sensitization
F	= Fume	STEL	= Short term Exposure limit values
IPEL	= Internal Permissible Exposure Limit	TD	= Total dust
OSHA	= Occupational Safety and Health Administration.	TLV	= Threshold Limit Value
R	= Respirable	TWA	= Time Weighted Average
Z	= OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances		

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. The respiratory protection shall be in accordance to 29 CFR 1910.134.

Section 9. Physical and chemical properties

Appearance

Physical state	: Liquid.
Color	: Various
Odor	: Characteristic.
Odor threshold	: Not available.
pH	: 9
Melting point	: Not available.
Boiling point	: 100°C (212°F)
Flash point	: Closed cup: Not applicable. [Product does not sustain combustion.]
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Flammability	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Evaporation rate	: 0.05 (butyl acetate = 1)
Vapor pressure	: 3.3 kPa (25 mm Hg)
Vapor density	: Not available.
Relative density	: 1.16
Density (lbs / gal)	: 9.68

Solubility(ies)

Media	Result
cold water	Soluble

Partition coefficient: n-octanol/water : Not applicable.

Viscosity : Kinematic (40°C (104°F)): >21 mm²/s (>21 cSt)

Volatility : 70% (v/v), 60.488% (w/w)

% Solid. (w/w) : 39.512

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Section 10. Stability and reactivity

Hazardous decomposition products : Depending on conditions, decomposition products may include the following materials:
carbon oxides metal oxide/oxides

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Limestone	LD50 Oral	Rat	6450 mg/kg	-
Kaolin	LC50 Inhalation Dusts and mists	Rat	>5.07 mg/l	4 hours
	LD50 Oral	Rat	>5000 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Target organs

: Contains material which causes damage to the following organs: eyes.
Contains material which may cause damage to the following organs: lungs, upper respiratory tract, skin, stomach.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Section 11. Toxicological information**Potential acute health effects**

- Eye contact** : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

- Conclusion/Summary** : There are no data available on the mixture itself. Contains isothiazolinones. May cause allergic reaction. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

- Potential immediate effects** : There are no data available on the mixture itself.
Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

- Potential immediate effects** : There are no data available on the mixture itself.
Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

- General** : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity**Acute toxicity estimates**

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
☑ Limestone	6450	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
☑ Limestone	Acute LC50 >56000 mg/l	Fish	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class (es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Product code 00380283

Date of issue 16 May 2024

Version 12

Product name PPG53-440 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN
ULTRA DEEP BASE

14. Transport information

Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.
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Additional information

DOT : None identified.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not applicable.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are active or exempted.

United States - TSCA 5(a)2 - Proposed significant new use rules:

<input checked="" type="checkbox"/> (2H)-Isothiazolone, 2-methyl-5-chloro-2-methyl-2H-isothiazol-3-one	Listed	P-96-1250
	Listed	P-96-1251

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

No products were found.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Product code 00380283

Date of issue 16 May 2024

Version 12

Product name PPG53-440 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN
ULTRA DEEP BASE

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 1 **Flammability** : 0 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on MSDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)

Health : 1 **Flammability** : 0 **Instability** : 0

Date of previous issue : 12/3/2021

Organization that prepared the SDS : EHS

Key to abbreviations

: ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

▣ Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET



Date of issue/Date of revision 21 August 2023

Version 12.01

Section 1. Identification

Product name : PPG53-420 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN MIDTONE BASE

Product code : 00380281

Other means of identification : Not available.

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Consumer applications, Professional applications.

Use of the substance/mixture : Coating.

Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
SETIQ Interior de la República: 800-00-214-00 (México)
SETIQ Ciudad de México: (55) 5559-1588 (México)

Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : CARCINOGENICITY - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 18.3% (oral), 19.5% (dermal), 19.5% (inhalation)

This product contains TiO₂ which has been classified as a GHS Carcinogen Category 2 based on its IARC 2B classification. For many products, TiO₂ is utilized as a raw material in a liquid coating formulation. In this case, the TiO₂ particles are bound in a matrix with no meaningful potential for human exposure to unbound particles of TiO₂ when the product is applied with a brush or roller. Sanding the coating surface or mist from spray applications may be harmful depending on the duration and level of exposure and require the use of appropriate personal protective equipment and/or engineering controls (see Section 8).

GHS label elements


Product code 00380281

Date of issue 21 August 2023

Version 12.01

Product name PPG53-420 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN
MIDTONE BASE

Section 2. Hazards identification

Hazard pictograms	:	
Signal word	:	Warning
Hazard statements	:	Suspected of causing cancer.
<u>Precautionary statements</u>		
Prevention	:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection.
Response	:	IF exposed or concerned: Get medical advice or attention.
Storage	:	Store locked up.
Disposal	:	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	:	Contains isothiazolinones. May cause allergic reaction. Emits toxic fumes when heated.
Hazards not otherwise classified	:	None known.

Section 3. Composition/information on ingredients

Substance/mixture	:	Mixture
Product name	:	PPG53-420 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN MIDTONE BASE

Ingredient name	%	CAS number
titanium dioxide	≥5.0 - ≤10	13463-67-7

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact	:	Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
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Section 4. First aid measures

- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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Product name PPG53-420 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN
MIDTONE BASE

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

**Product name PPG53-420 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN
MIDTONE BASE**

Section 7. Handling and storage

Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

: Do not store below the following temperature: 5°C (41°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
titanium dioxide	OSHA PEL (United States, 5/2018). TWA: 15 mg/m ³ 8 hours. Form: Total dust ACGIH TLV (United States, 1/2022). TWA: 2.5 mg/m ³ 8 hours. Form: respirable fraction, finescale particles

Key to abbreviations

A	= Acceptable Maximum Peak	S	= Potential skin absorption
ACGIH	= American Conference of Governmental Industrial Hygienists.	SR	= Respiratory sensitization
C	= Ceiling Limit	SS	= Skin sensitization
F	= Fume	STEL	= Short term Exposure limit values
IPEL	= Internal Permissible Exposure Limit	TD	= Total dust
OSHA	= Occupational Safety and Health Administration.	TLV	= Threshold Limit Value
R	= Respirable	TWA	= Time Weighted Average
Z	= OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances		

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls

: If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

**Product name PPG53-420 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN
MIDTONE BASE****Section 8. Exposure controls/personal protection**

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety glasses with side shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. The respiratory protection shall be in accordance to 29 CFR 1910.134.

Section 9. Physical and chemical properties**Appearance**

- Physical state** : Liquid.
- Color** : Various
- Odor** : Alcohol-like.
- Odor threshold** : Not available.
- pH** : 9
- Melting point** : Not available.
- Boiling point** : 100°C (212°F)
- Flash point** : Closed cup: Not applicable. [Product does not sustain combustion.]
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Flammability** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Evaporation rate** : 0.05 (butyl acetate = 1)
- Vapor pressure** : 3.3 kPa (25 mm Hg)
- Vapor density** : Not available.

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MIDTONE BASE

Section 9. Physical and chemical properties

Relative density : 1.25

Density (lbs / gal) : 10.43

Solubility(ies) :

Media	Result
cold water	Soluble

Partition coefficient: n-octanol/water : Not applicable.

Viscosity : Kinematic (40°C (104°F)): >21 mm²/s (>21 cSt)

Volatility : 64% (v/v), 50.955% (w/w)

% Solid. (w/w) : 49.045

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Depending on conditions, decomposition products may include the following materials: metal oxide/oxides

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
titanium dioxide	LC50 Inhalation Dusts and mists	Rat	>6.82 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Section 11. Toxicological information**Conclusion/Summary****Skin** : There are no data available on the mixture itself.**Respiratory** : There are no data available on the mixture itself.**Mutagenicity****Conclusion/Summary** : There are no data available on the mixture itself.**Carcinogenicity****Conclusion/Summary** : There are no data available on the mixture itself.**Classification**

Product/ingredient name	OSHA	IARC	NTP
titanium dioxide	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4

NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen

OSHA: +

Not listed/not regulated: -

Reproductive toxicity**Conclusion/Summary** : There are no data available on the mixture itself.**Teratogenicity****Conclusion/Summary** : There are no data available on the mixture itself.**Specific target organ toxicity (single exposure)**

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Target organs

: Contains material which may cause damage to the following organs: lungs, upper respiratory tract.

Aspiration hazard

Not available.

Information on the likely routes of exposure**Potential acute health effects****Eye contact** : No known significant effects or critical hazards.**Inhalation** : No known significant effects or critical hazards.**Skin contact** : No known significant effects or critical hazards.**Ingestion** : No known significant effects or critical hazards.**Over-exposure signs/symptoms****Eye contact** : No specific data.**Inhalation** : No specific data.**Skin contact** : No specific data.**Ingestion** : No specific data.**Delayed and immediate effects and also chronic effects from short and long term exposure**

Section 11. Toxicological information

Conclusion/Summary : There are no data available on the mixture itself. Contains isothiazolinones. May cause allergic reaction. This product contains TiO₂ which has been classified as a GHS Carcinogen Category 2 based on its IARC 2B classification. For many products, TiO₂ is utilized as a raw material in a liquid coating formulation. In this case, the TiO₂ particles are bound in a matrix with no meaningful potential for human exposure to unbound particles of TiO₂ when the product is applied with a brush or roller. Sanding the coating surface or mist from spray applications may be harmful depending on the duration and level of exposure and require the use of appropriate personal protective equipment and/or engineering controls (see Section 8). If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
PPG53-420 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN MIDTONE BASE	176019.3	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours

Persistence and degradability

Product code 00380281

Date of issue 21 August 2023 **Version** 12.01

Product name PPG53-420 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN
MIDTONE BASE

Section 12. Ecological information

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : None identified.

IMDG : None identified.

Product code 00380281	Date of issue 21 August 2023	Version 12.01
Product name PPG53-420 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN MIDTONE BASE		

14. Transport information

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not applicable.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are active or exempted.

United States - TSCA 5(a)2 - Proposed significant new use rules:
3(2H)-Isothiazolone, 2-methyl-

Listed

P-96-1250

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : CARCINOGENICITY - Category 2

Composition/information on ingredients

Name	%	Classification
titanium dioxide	≥5.0 - ≤10	CARCINOGENICITY - Category 2

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 1 * **Flammability** : 0 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on MSDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)

Health : 1 **Flammability** : 0 **Instability** : 0

Date of previous issue : 3/31/2023

Product code 00380281

Date of issue 21 August 2023

Version 12.01

Product name PPG53-420 GLIDDEN DIAMOND INTERIOR LATEX PAINT AND PRIMER SATIN
MIDTONE BASE

Section 16. Other information

Organization that prepared the SDS : EHS

Key to abbreviations :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- N/A = Not available
- SGG = Segregation Group
- UN = United Nations

✔ Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

RFP2024-001
REMODELACIÓN DE LAS FACILIDADES DE LA
OFICINA DE FONDOS FEDERALES Y PROYECTOS ESPECIALES

III. PLANOS



PROJECT

THE RENOVATION OF THE NEW FEDERAL FUNDS OFFICES

"ANTIGUA AREA LEGAL"

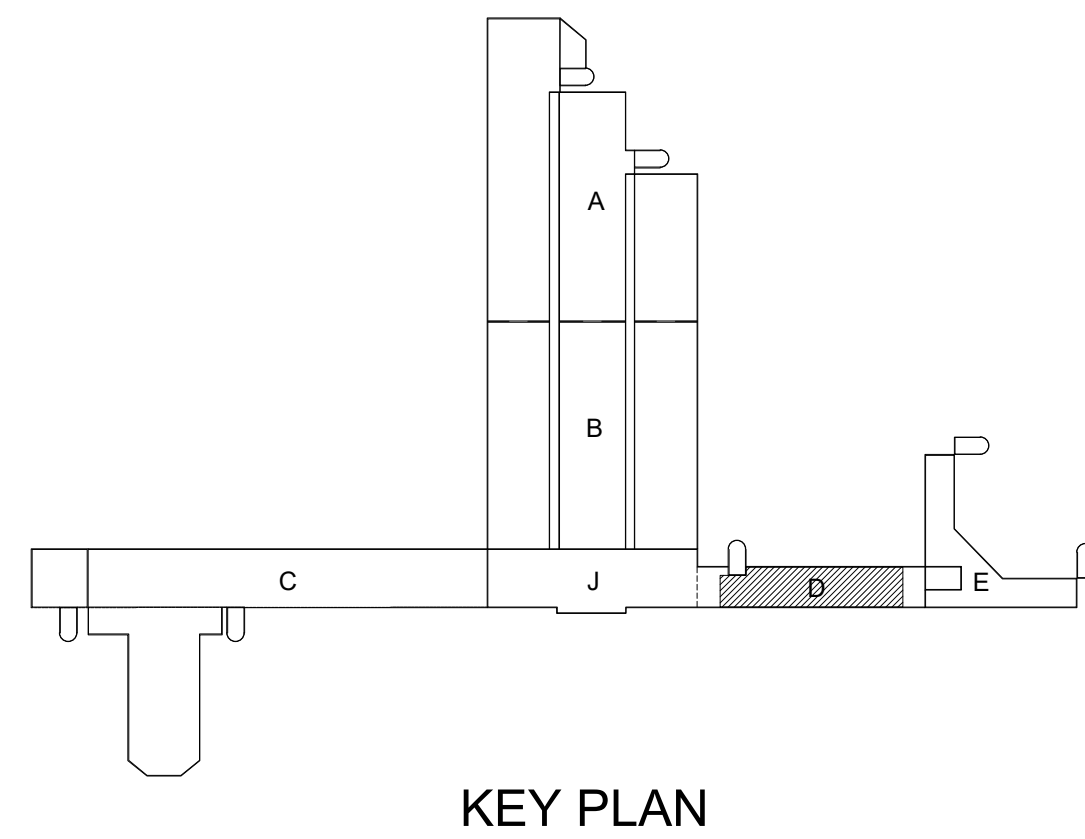
(BUILDING - D)



ENGINEERING & PROJECT MANAGEMENT SERVICES FOR

METROPOLITAN BUS AUTHORITY

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



INDEX

1	T-1	TITLE
2	A-1	EXISTING FLOOR PLAN
3	A-2	PROPOSED FLOOR PLAN & NEW KITCHENETTE
4	A-3	PROPOSED SUSPENDED CEILING PLAN & DETAILS
5	E-1	ELECTRICAL DISTRIBUTION PLAN & DETAILS
6	AC-1	PROPOSED AC DUCT SYSTEM AND SUSPENDED CEILING PLAN
7	AC-2	TYPICAL DETAILS FOR AC DUCTS & CONNECTIONS



GEO ENGINEERS, P.S.C.
 P.O. BOX 2842 GUAYNABO, P.R. 00970
 TEL: 787-782-3301 FAX: 787-783-0762
 EMAIL: geobuilders@gmail.com



DESIGNER:
 Miguel A. Velazquez
 Professional Engineer
 Lic. NO. 4732

REVISIONS	
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2	
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4	

ENGINEERING & PROJECT MANAGEMENT SERVICES FOR
METROPOLITAN BUS AUTHORITY
 PERMANENT REPAIRS TO PRIMA FACILITIES & EQUIPMENT (RFQ/P-2022-003)
PROJECT COVER NO.
 THE RENOVATION OF THE
 NEW FEDERAL FUNDS OFFICES

DRAWN BY:
 HR/SC
 SCALE:
 1/8"=1'-0"
 FILE NAME:
 AMA
 DATE:
 MARCH 2021
 DWG. NUM.:
 T-1.0

SHEET NUM.:
 1 OF 7

Yo, Miguel A. Velazquez, Ingeniero, licencia #4732, certifico que soy el profesional que diseñó estos planos y las especificaciones complementarias; también certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del Reglamento Conjunto y las disposiciones aplicables de los Reglamentos y Códigos de las Agencias, Juntos Reglamentados o Corporaciones Públicas con jurisdicción. Certifico, además, que en la preparación de estos planos y especificaciones se ha cumplido cabalmente con lo dispuesto en la ley Num. 14 de 8 de enero de 2004, según enmendada, conocida como la Ley para la inversión por la industria fuerterricense y con la ley num. 319 de 15 de mayo de 1938, según enmendada; Ley num. 96 de 6 de julio de 1976, según enmendada; según aplique. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido por desconocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi consentimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la ODPe. "LA PRESENTE CERTIFICACION NO CONSTITUYE UNA RENUNCIA A CUALQUIER DERECHO, ACCION O DEFENSA LEGAL QUE ME ASISTA"

LEGEND	
	GYPSUM WALL (INSULATED)
	CONCRETE BLOCK WALL
	WINDOW
	CONCRETE WALL
	DRAWING NUMBER
	SECTION
	SHEET NUMBER
	FINISH
	DOOR SYMBOL
	WINDOW SYMBOL
	STEP
N.I.C.	NOT IN CONTRACT

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P.O. BOX 2842 GUAYNABO, P.R. 00970
TEL: 787-782-3301 FAX: 787-783-0762
EMAIL: geobuilders@gmail.com

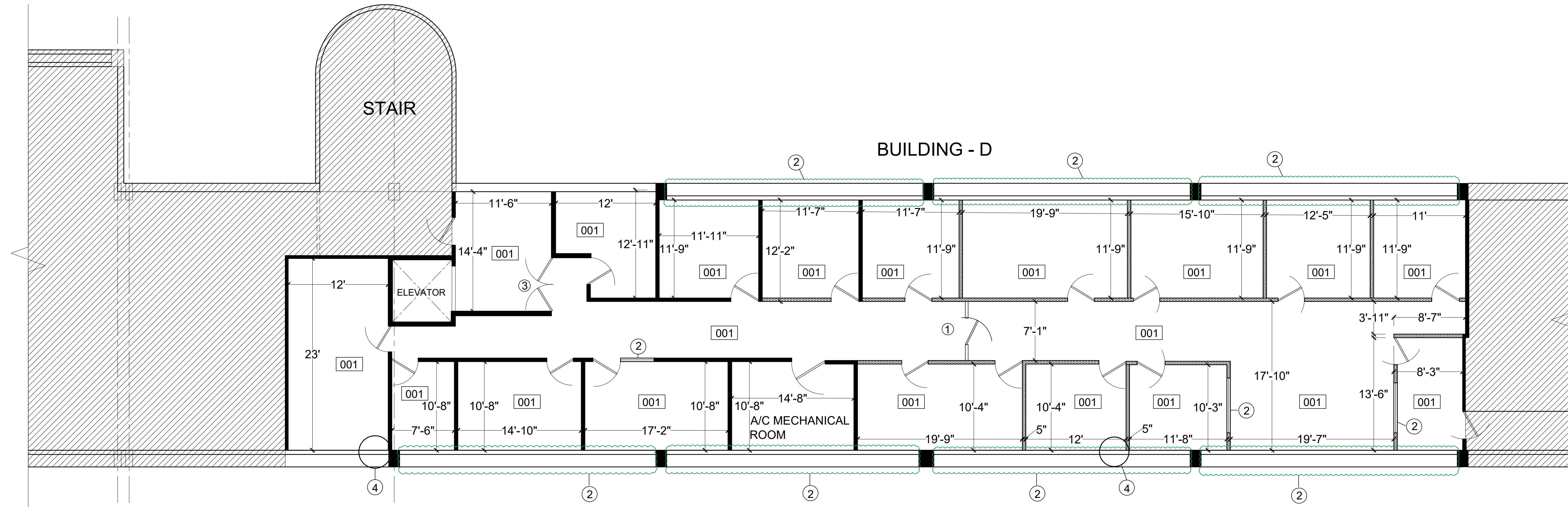


DESIGNER:
Miguel A. Velazquez
Professional Engineer
Lic. NO. 4732

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ENGINEERING & PROJECT MANAGEMENT SERVICES FOR
METROPOLITAN BUS AUTHORITY
PERMANENT REPAIRS TO PRIMA FACILITIES & EQUIPMENT (RFQ/P: 2022-003)
EXISTING FLOOR PLAN
THE RENOVATION OF THE
NEW FEDERAL FUND OFFICES

DRAWN BY:	HR/SC
SCALE:	1/8"=1'-0"
FILE NAME:	AMA
DATE:	MAY 2024
DWG. NUM.:	A-1.0
SHEET NUM.:	2
OF:	7



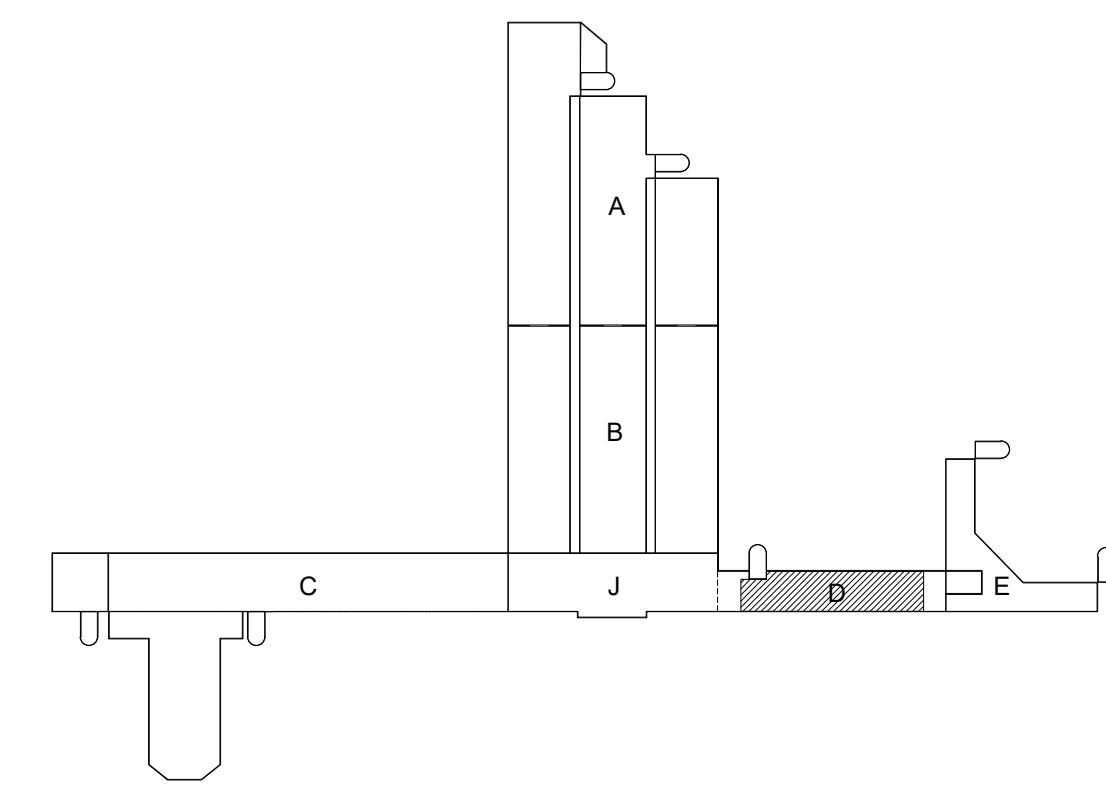
EXISTING LEGAL AREA (2ND FLOOR) FLOOR PLAN

SCALE: 1/8" = 1'-0"

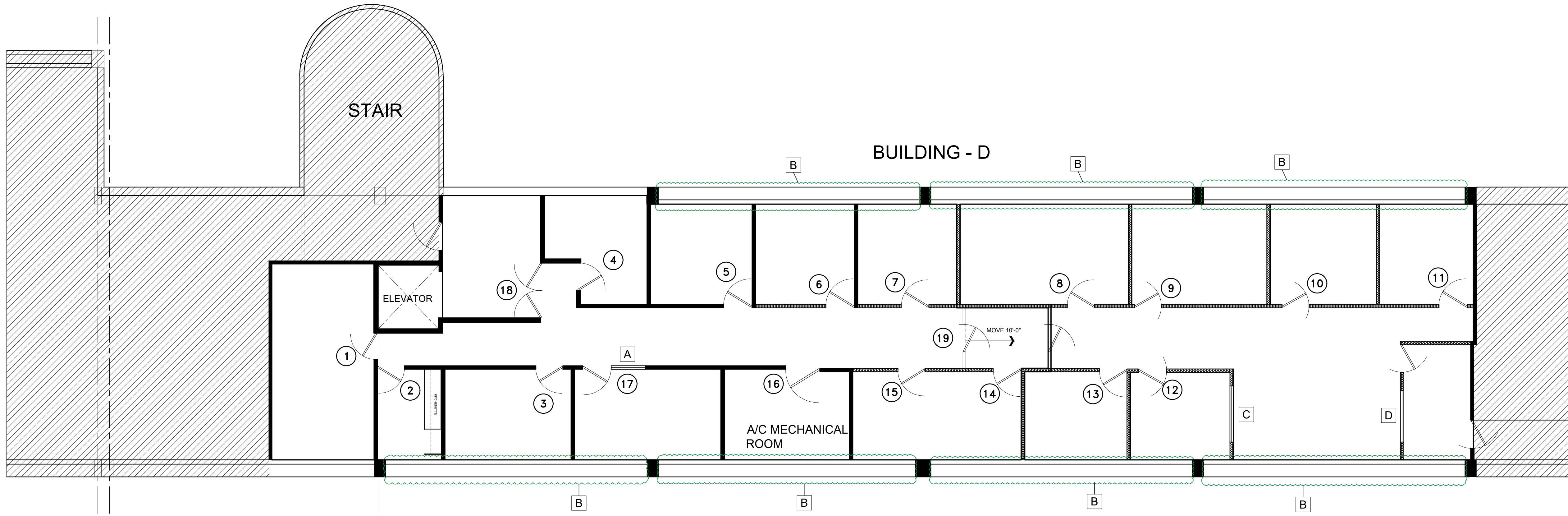
NOTES:

- EXISTING DOORS & FIXED GLASS TO BE REMOVED.
- EXISTING FIXED GLASS & WINDOWS TO BE REPAIRED AND CLEANED.
- EXISTING DOOR TO BE REPAIRED
- REMOVE AND INSTALL NEW FIXED GLASS

SCHEDULE OF FINISHES						
MK'D	IDENTIFICATION	FLOORS	BASE	WALLS	CEILING	REMARKS
001	LEGAL AREA	● 12" X 12" VINYL TILE	● WALL BASE 4"	● PAINT	● SUSPENDED CEILING 2'X2'	EXISTING TILES CLEAN AND REPAIR



KEY PLAN



PROPOSED NEW FEDERAL FUND OFFICES FLOOR PLAN

SCALE: 1/8" = 1'-0"

LEGEND

	PLYCEM OR GYPSUM WALL (INSULATED)
	CONCRETE BLOCK WALL
	WINDOW
	CONCRETE WALL
	DRAWING NUMBER
	SECTION NUMBER
	SHEET NUMBER
	FINISH
	DOOR SYMBOL
	WINDOW SYMBOL
	STEP
	N.I.C. NOT IN CONTRACT

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 P.O. BOX 2842 GUAYNABO, P.R. 00970
 TEL: 787-782-3301 FAX: 787-783-0762
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DESIGNER:
 Miguel A. Velazquez
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 Lic. NO. 4732

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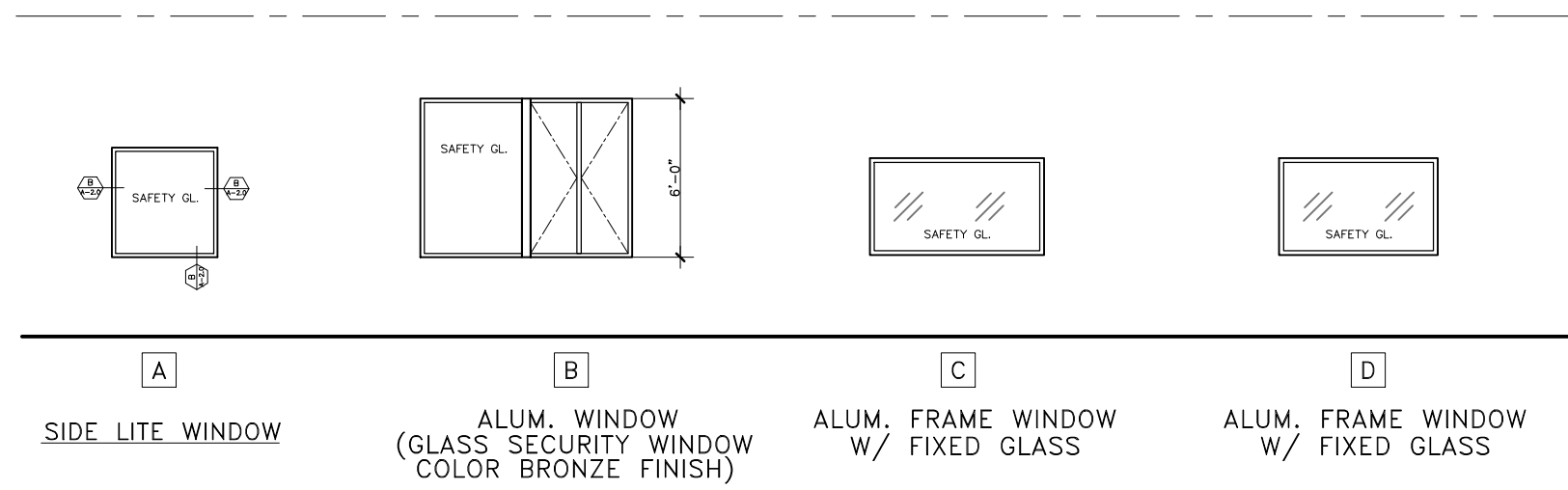
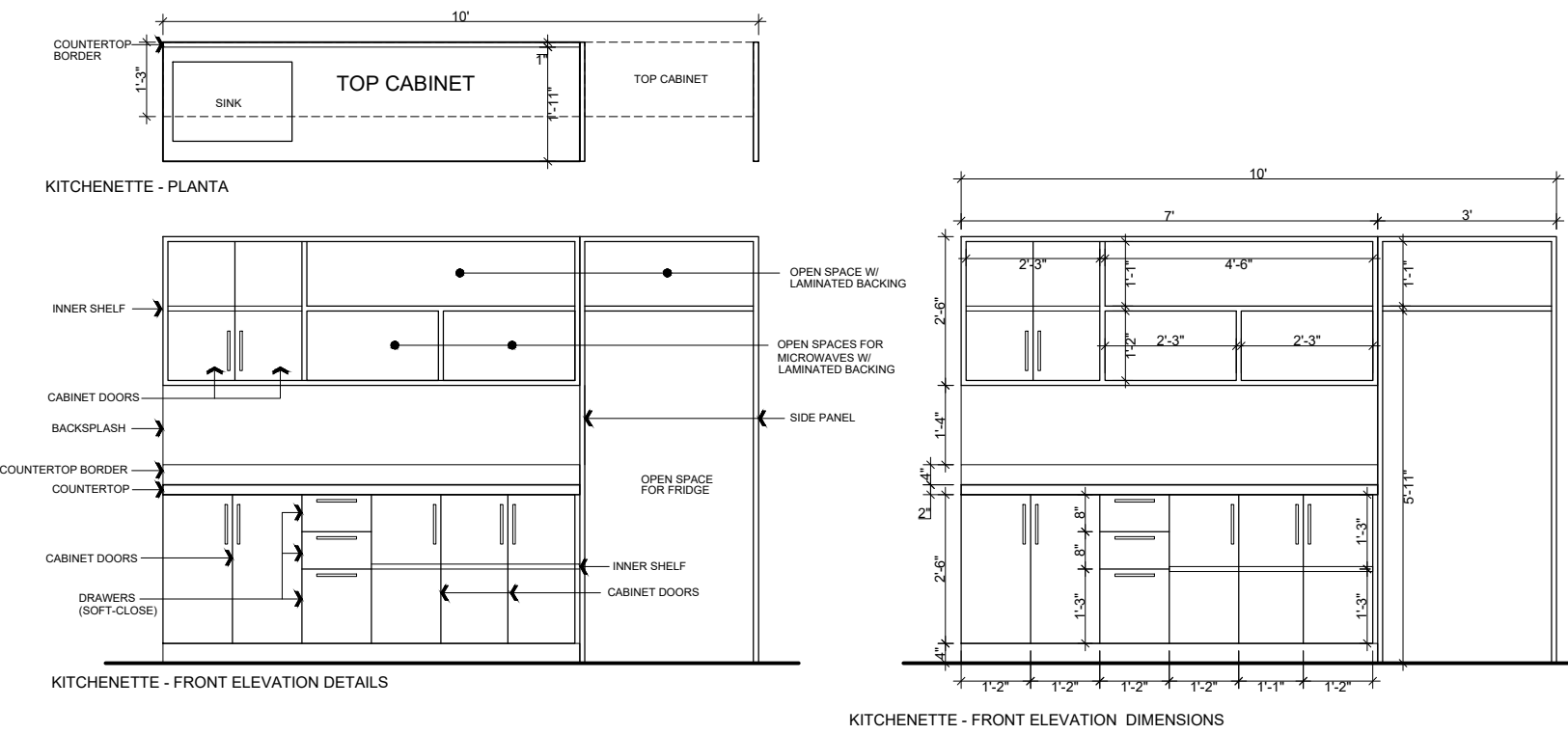
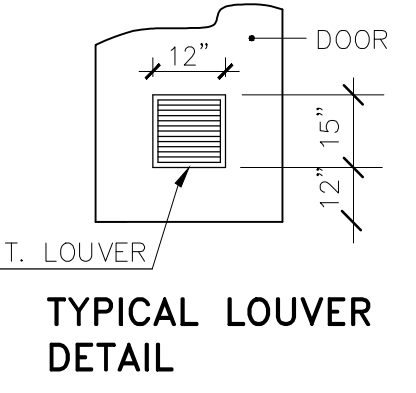
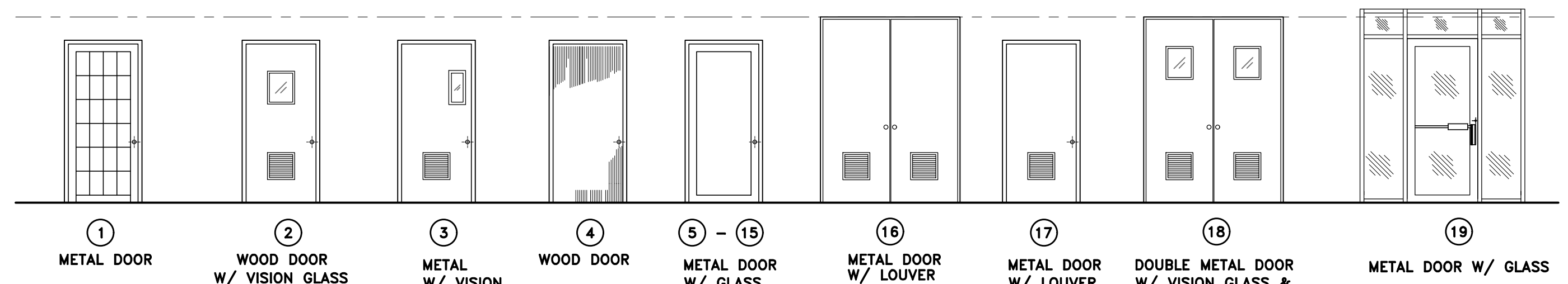
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ENGINEERING & PROJECT MANAGEMENT SERVICES FOR METROPOLITAN BUS AUTHORITY
 PERMANENT REPAIRS TO PRIMB FACILITIES & EQUIPMENT (RFQP-2022-003)
PROPOSED FLOOR PLAN & KITCHENETTE
 THE RENOVATION OF THE NEW FEDERAL FUND OFFICES

DRAWN BY: HR/SC
 SCALE: 1/8"=1'-0"
 FILE NAME: AMA
 DATE: MAY 2024
 DWG. NUM.: A-2.0
 SHEET NUM.: 3 OF 7

CABINET AND COUNTER NOTES:

1. ALL PANEL IN PVC 55
2. ALL THE UPPER CABINETS AND COUNTER TOPS SHALL BE WITH 3/4" THICK PANELS.
3. ALL VISIBLE CABINET AND COUNTER PARTS AND SHELF TOPS SHALL BE LAMINATED PLASTIC LAMINATES.
4. ALL COUNTER BASES SHALL BE LAMINATED.
5. SILICONE SEALANT SHALL BE USED TO CAULK AND SEAL UNDER SINK RIM AND COUNTER TOP.
6. ALL DOOR AND DRAWER PULLS SHALL BE LONG BACK-FASTENED FINGER-PULL METAL TYPE.
7. THE CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS OF ALL CABINETS TO BE APPROVED BY THE PM PRIOR TO PURCHASE MATERIALS FOR THE CONSTRUCTION AND INSTALLATION. HE/SHE SHALL VERIFY FIELD DIMENSIONS.
8. ALL CABINET DOORS SHALL BE SELF CLOSING, 175° SWING, INDIVIDUAL DOOR WITH ADJUSTMENT INVISIBLE SURFACE-MOUNTED HINGES AND MAGNETIC CATCHES.
9. ALL DRAWER SHALL HAVE FULL EXTENDED MEDIUM METAL DRAWER GUIDES ON BOTH SIDES. GUIDES SHALL PROVIDE FOR DRAWER REMOVAL.
10. EDGE OF BOTTOM SHELF OF BASE CABINET SHALL BE REINFORCED.
11. PROVIDE CUT OUTS FOR INSTALLATION OF WATER LINES AND ELECTRICAL CONDUITS.
12. COUNTERTOP SURFACES SHALL BE COVERED WITH LAMINATED PLASTIC WITH A 4" HIGH SPLASH BOARD AT KITCHENETTES. ALL COVERED WITH CONTINUOUS LAMINATED PLASTIC SURFACE WITH CURVED CORNERS AND EDGES.
13. ALL EXPOSED CABINET HARDWARE SHALL BE SELECTED BY OWNER.



SCHEDULE OF DOORS

MKD	SIZE		MATERIAL	DESCRIPTION
	WIDTH	HEIGHT		
1	38	83	METAL W/ GLASS	VERIFY DOOR LOCK, REPAIR AND PAINT
2	38	83	WOOD	VERIFY DOOR LOCK, INSTALL NEW LOUVER AND VISION PANEL, REPAIR AND PAINT
3	38	83	METAL W/ GLASS	VERIFY DOOR LOCK, REPAIR AND PAINT
4	38	82	WOOD	VERIFY DOOR LOCK, INSTALL NEW LOUVER, REPAIR AND PAINT
5	40	81	METAL W/ GLASS	VERIFY DOOR LOCK, INSTALL NEW GLASS FILM, REPAIR AND PAINT
6	40	81	METAL W/ GLASS	VERIFY DOOR LOCK, INSTALL NEW GLASS FILM, REPAIR AND PAINT
7	39	82	METAL W/ GLASS	VERIFY DOOR LOCK, INSTALL NEW GLASS FILM, REPAIR AND PAINT
8	38	81	METAL W/ GLASS	VERIFY DOOR LOCK, INSTALL NEW GLASS FILM, REPAIR AND PAINT
9	38	81	METAL W/ GLASS	VERIFY DOOR LOCK, INSTALL NEW GLASS FILM, REPAIR AND PAINT
10	38	81	METAL W/ GLASS	VERIFY DOOR LOCK, INSTALL NEW GLASS FILM, REPAIR AND PAINT
11	40	86	METAL W/ GLASS	VERIFY DOOR LOCK, INSTALL NEW GLASS FILM, REPAIR AND PAINT
12	40	84	METAL W/ GLASS	VERIFY DOOR LOCK, INSTALL NEW GLASS FILM, REPAIR AND PAINT
13	38	81	METAL W/ GLASS	VERIFY DOOR LOCK, INSTALL NEW GLASS FILM, REPAIR AND PAINT
14	38	81	METAL W/ GLASS	VERIFY DOOR LOCK, INSTALL NEW GLASS FILM, REPAIR AND PAINT
15	38	82	METAL W/ GLASS	VERIFY DOOR LOCK, INSTALL NEW GLASS FILM, REPAIR AND PAINT
16	48	84	METAL	VERIFY DOOR LOCK, INSTALL NEW LOUVER, REPAIR AND PAINT
17	38	84	METAL	VERIFY DOOR LOCK, REPAIR AND PAINT
18	78	82	METAL	VERIFY DOOR LOCK, INSTALL NEW LOUVER AND VISION PANEL, REPAIR AND PAINT
19			METAL W/ GLASS	MOVE, REPAIR AND PAINT, SEE NOTES.

PROPOSED NEW KITCHENETTE CABINETS

SCALE: NTS

SCHEDULE OF WINDOWS & GLASS

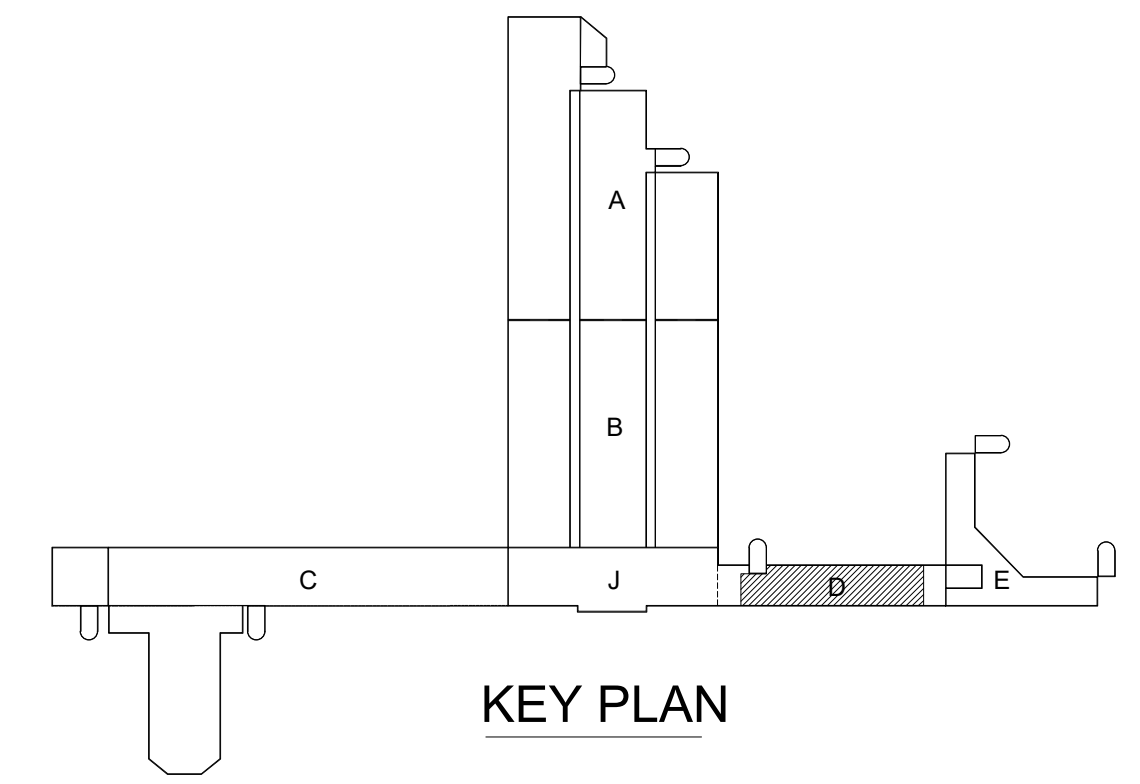
MKD	SIZES		NO. OF UNIT	MATERIAL	DESCRIPTION
	WIDTH	HEIGHT			
A	48"	48"	..	ALUMINUM & GLASS	COLOR BRONZE, SIDELITE
B	96"	72"	..	ALUMINUM & GLASS	COLOR BRONZE, EXTERIOR
C	79"	44"	..	ALUMINUM & GLASS	COLOR BRONZE, FIXED GLASS
D	72"	44"	..	ALUMINUM & GLASS	COLOR BRONZE, FIXED GLASS

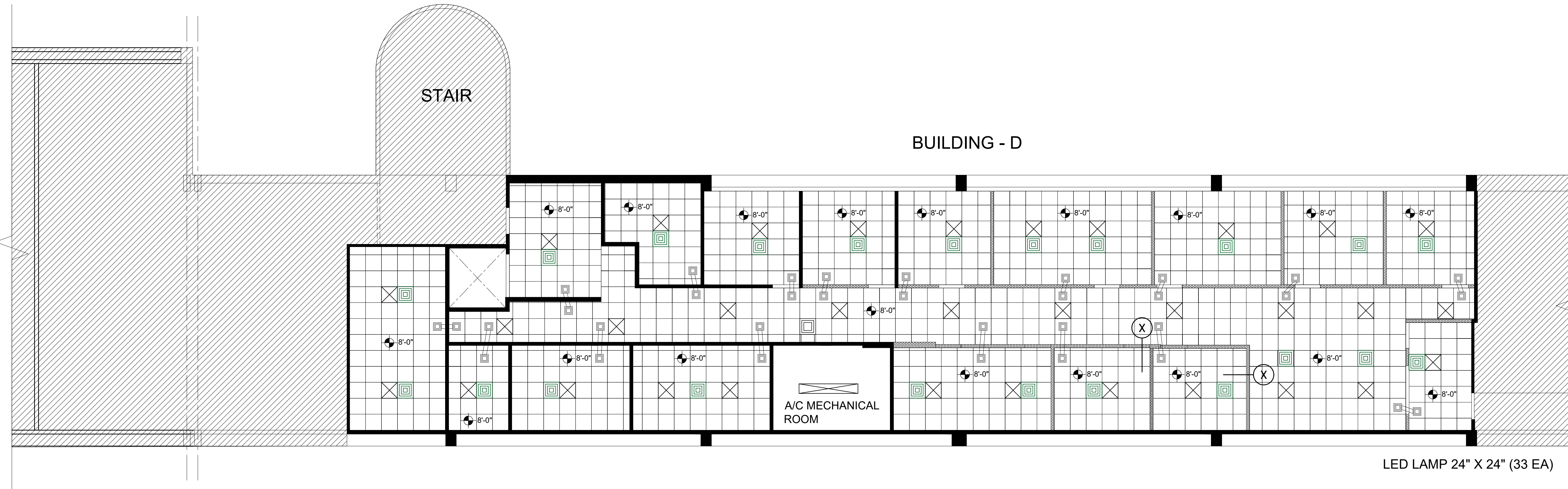
GENERAL NOTES:

1. ALL ENTRANCE SHALL HAVE DOOR CLOSERS (VERIFY)
2. FOR ENTRANCE DOOR NO. 16 & NO.18 THE LEVER HANDLES OPERATORS SHALL HAVE SECURITY LOCK.
3. ALL GLASS AT WINDOWS AND DOOR SHALL HAVE NEW SOLAR BRONZE COLOR FILM.
4. EXISTING DOOR NO. 19 SHALL BE MOVED 10'-0" CLOSER TO THE RECEPTION OF THE LEGAL AREA. PROVIDE FIXED LOUVER @ DOOR TRANSOM.

NOTE:

1. NEW TRANSITION GRILLE 12"x12" @ CORRIDOR WALL (11EA) LOCATED OVER DOORS.
2. NEW LOUVER (METAL OR WOOD) @ DOORS [2,3,4,16,17,18 (8EA)]
3. PROVIDE METAL LOUVER @ DOOR 19 TRANSOM
4. PROVIDE GLASS VISION PANELS @ DOORS 2 (12"x15"), 3 (6"x15"), 18 (2EA - 12"x15"), 1/4" LAMINATED GLASS.



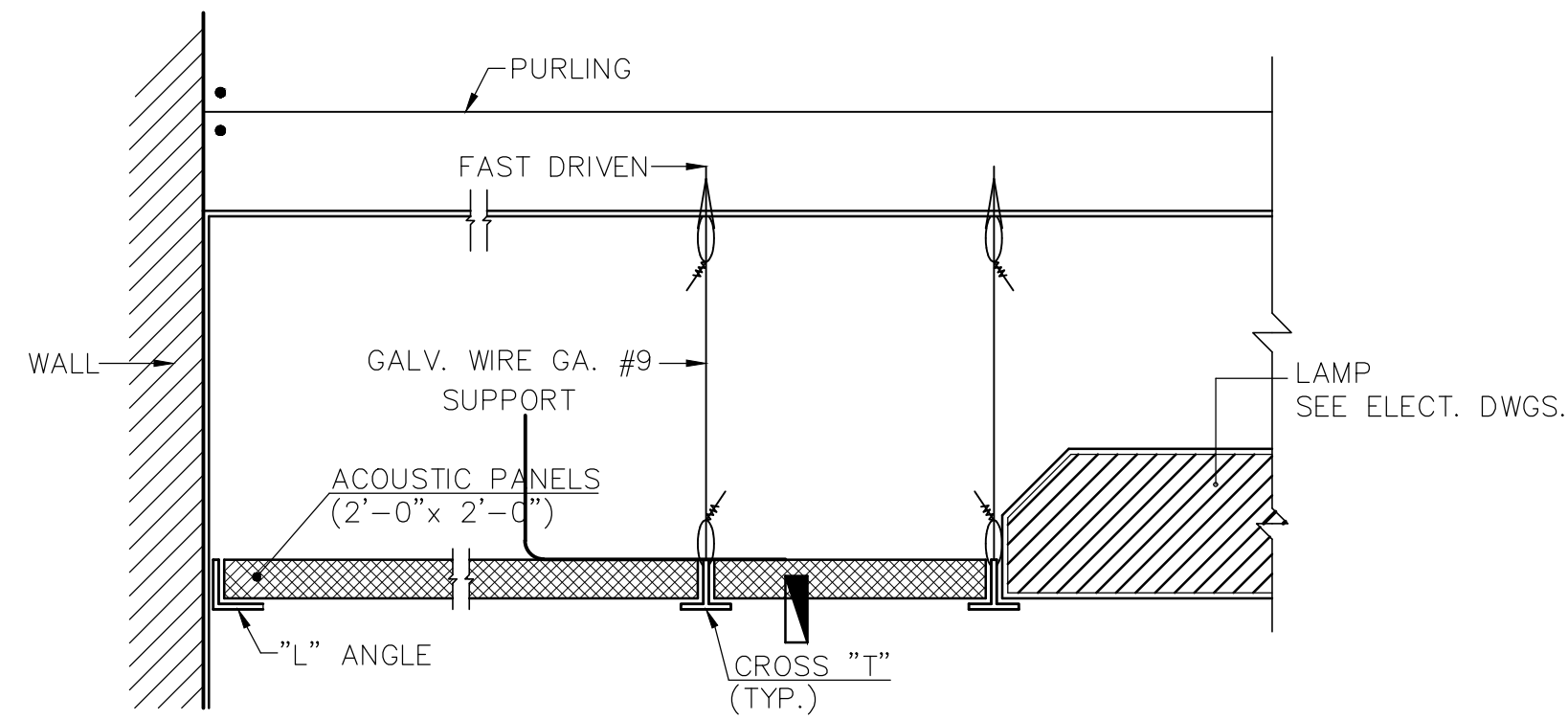


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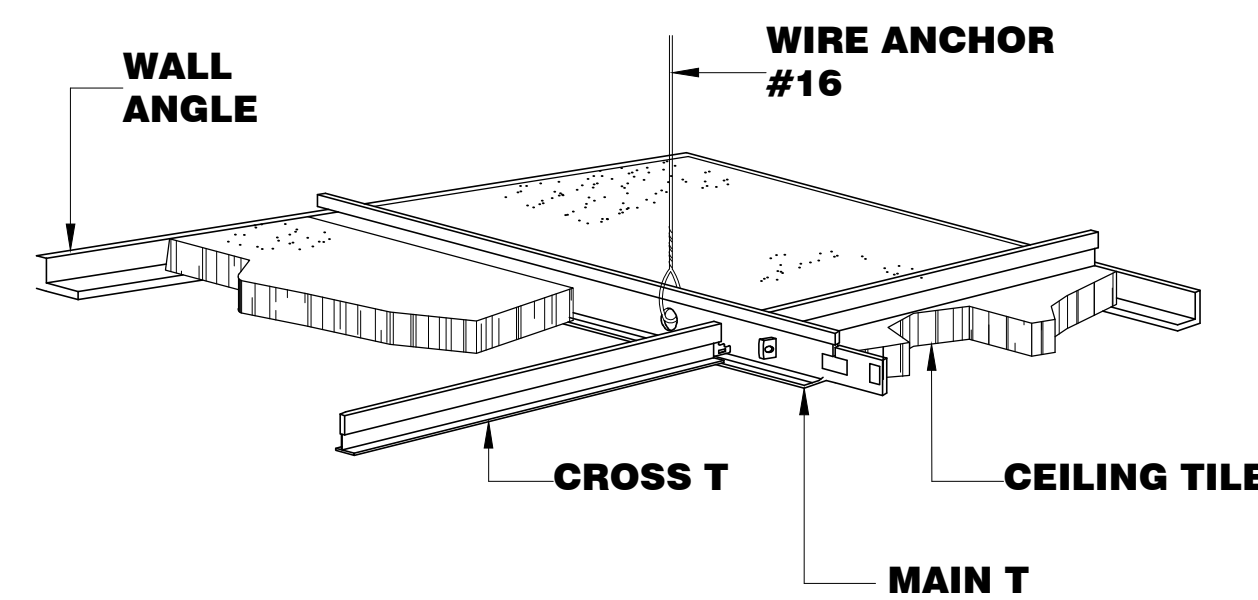
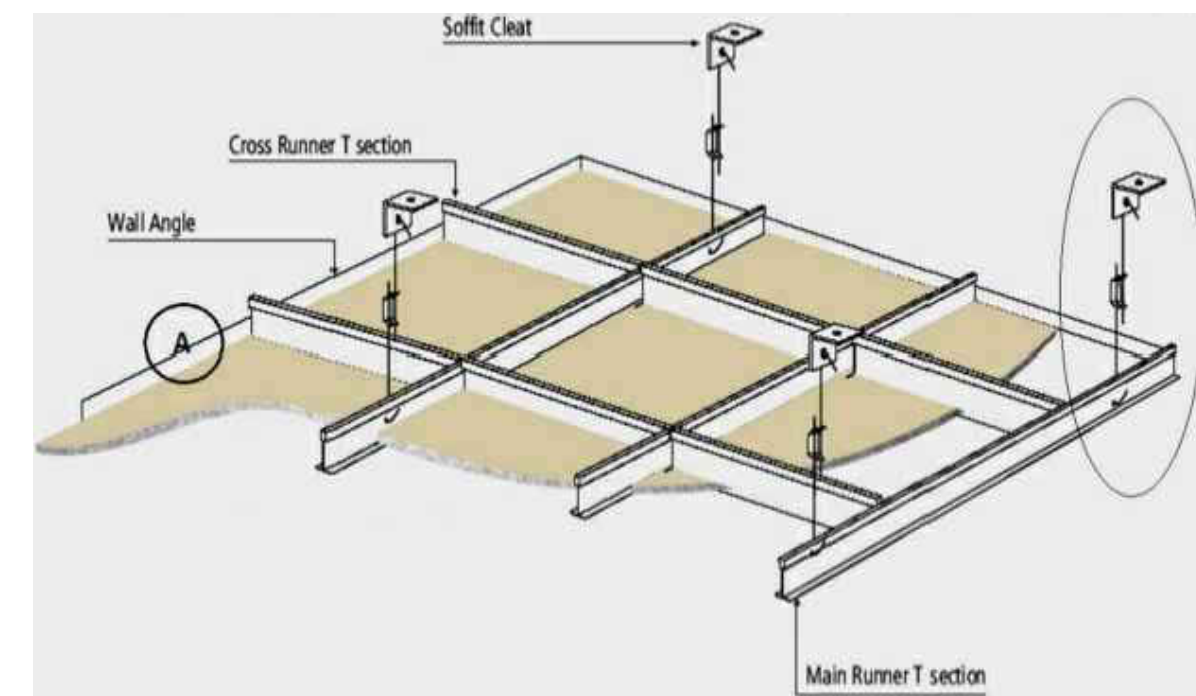
- ACOUSTIC CEILING PLAN
2'-0"x2'-0"
- LED LAMP
2'-0"x2'-0"
- ELEVATION FROM FINISH FLOOR
TO FINISH ROOF
- A/C VENT
- A/C RETURN GRILLES
- A/C MAIN RETURN

**PROPOSED SUSPENDED CEILING PLAN
NEW FEDERAL FUND OFFICES**

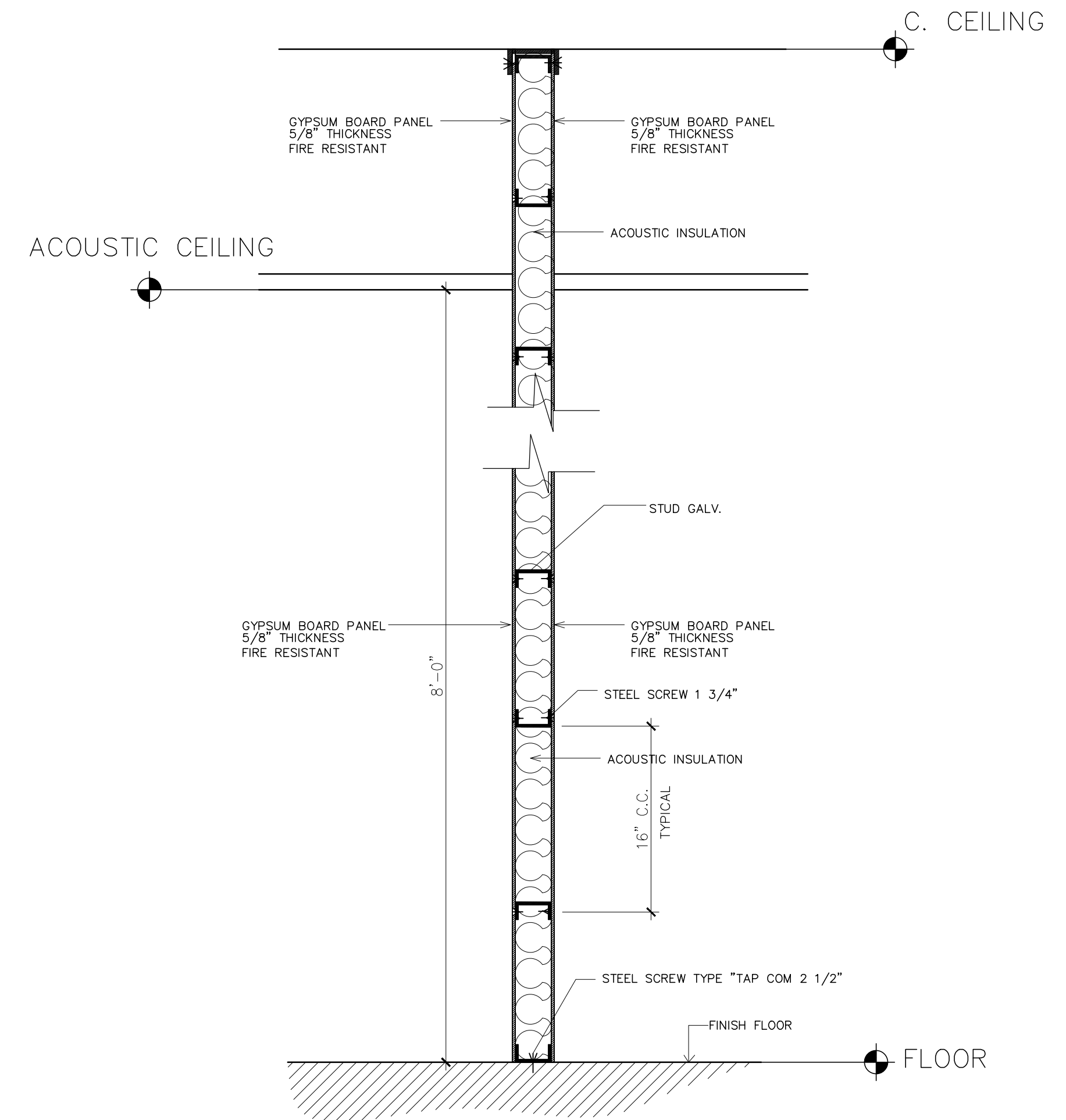
SCALE: 1/8" = 1'-0"



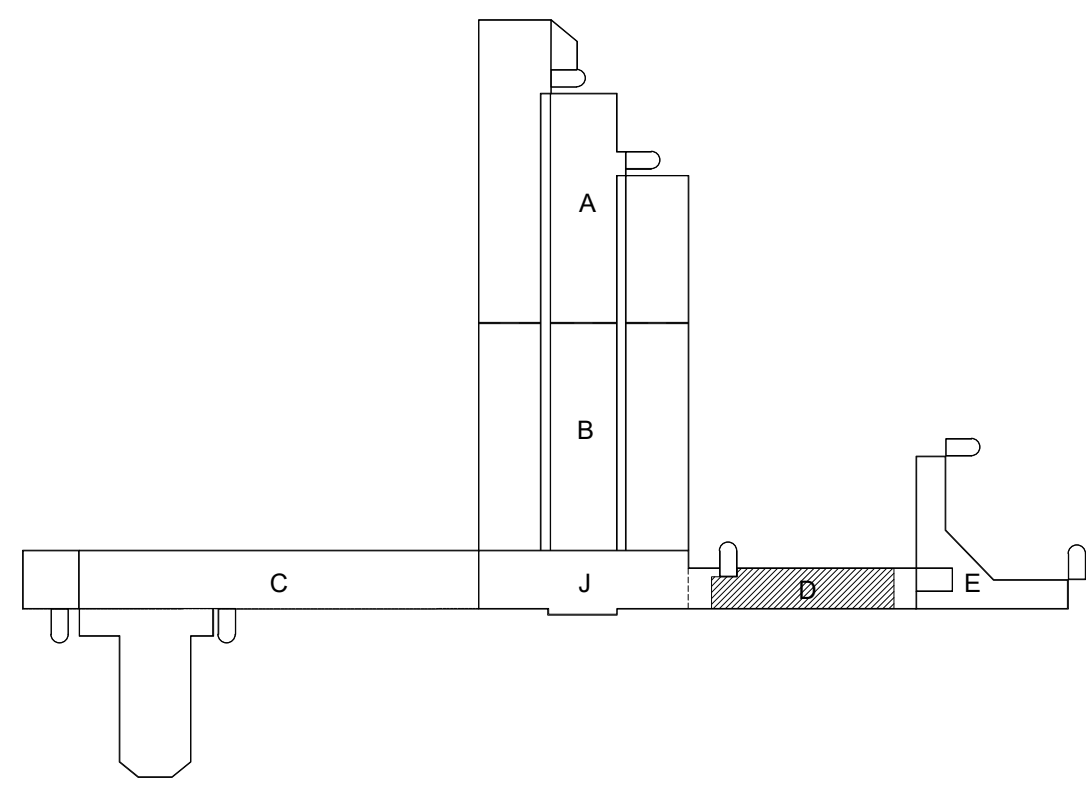
TYP. SUSPENDED CEILING DET
NOT TO SCALE



INSTALLATION ACOUSTICAL CEILING DETAILS



X TYPICAL GYPSUM WALL DETAILS
NOT TO SCALE



KEY PLAN

GEO ENGINEERS, P.S.C.
 P.O. BOX 2842 GUAYNABO, P.R. 00970
 TEL: 787-782-3301 FAX: 787-783-0762
 EMAIL: geobuilders@gmail.com

SEAL:

DESIGNER:
 Miguel A. Velazquez
 Professional Engineer
 Lic. NO. 4732

REVISIONS	
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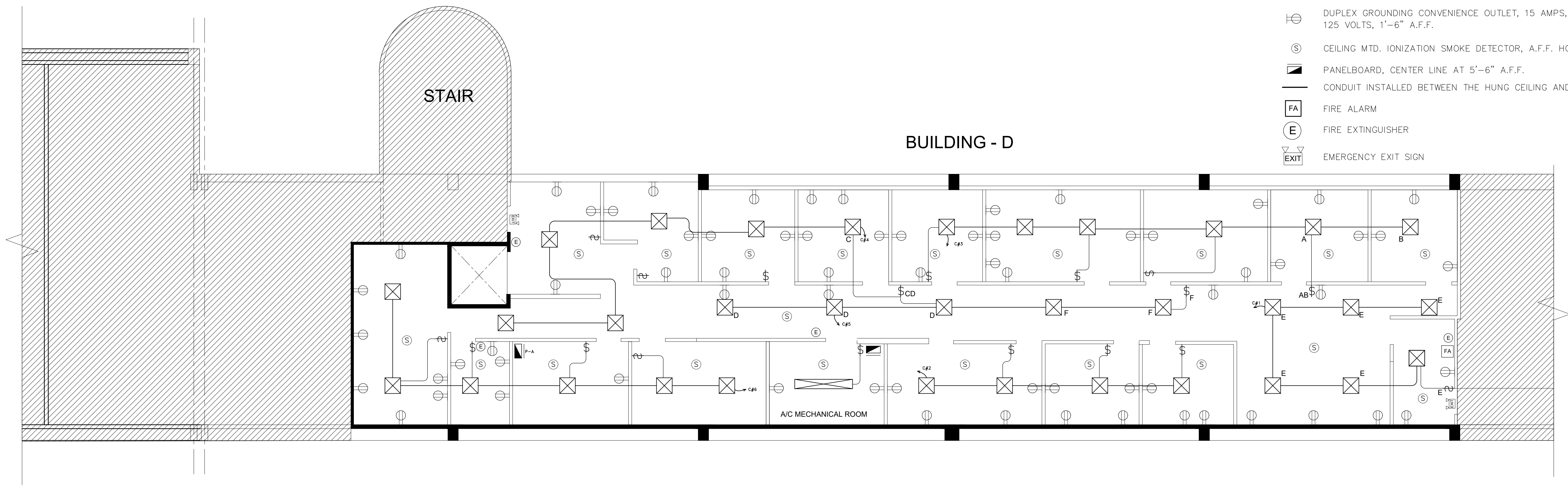
**ENGINEERING & PROJECT MANAGEMENT SERVICES FOR
METROPOLITAN BUS AUTHORITY
PERMANENT REPAIRS TO PRMBA FACILITIES & EQUIPMENT (RFQ/P: 2022-003)**

**PROPOSED SUSPENDED CEILING PLAN
THE RENOVATION OF THE
NEW FEDERAL FUND OFFICES**

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 SCALE: 1/8"=1'-0"
 FILE NAME: AMA
 DATE: MAY 2024
 DWG. NUM.: A-3.0
 SHEET NUM.: 4 OF 7

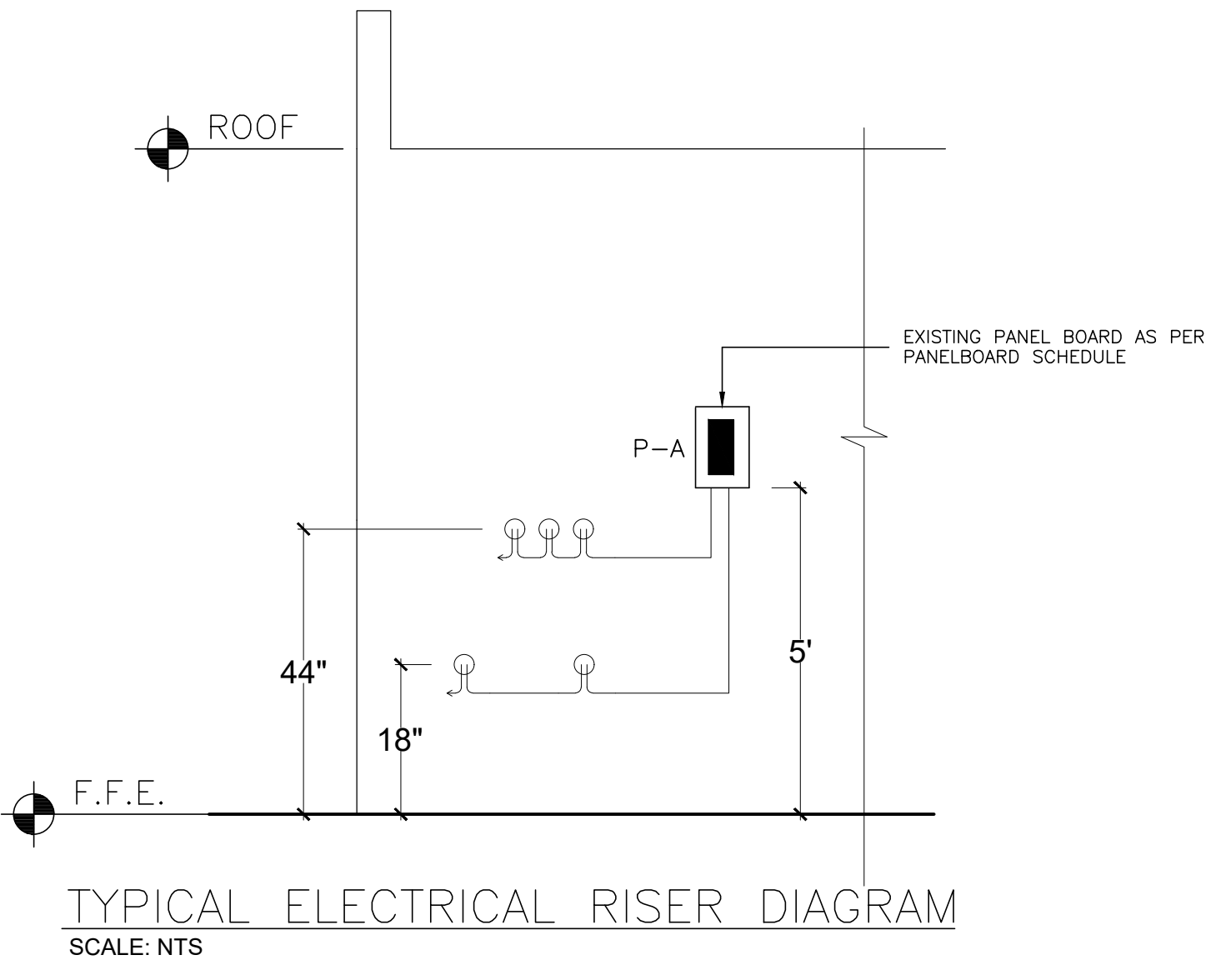
LEGEND

- ☒ LED LAMP ACOUSTIC MOUNTED 2'X2'
- ☎ SINGLE POLE SWITCH, 20 AMPS, 125 VOLTS 48" A.F.F.
- ⊕ DUPLEX GROUNDING CONVENIENCE OUTLET, 15 AMPS, 125 VOLTS, 1'-6" A.F.F.
- Ⓢ CEILING MTD. IONIZATION SMOKE DETECTOR, A.F.F. HONEYWELL CAT. NO. TC805A.
- ▭ PANELBOARD, CENTER LINE AT 5'-6" A.F.F.
- CONDUIT INSTALLED BETWEEN THE HUNG CEILING AND THE CEILING SLAB.
- FA FIRE ALARM
- E FIRE EXTINGUISHER
- EXIT EMERGENCY EXIT SIGN



ELECTRICAL DISTRIBUTION PLAN

SCALE: 1/8" = 1'-0"



TYPICAL ELECTRICAL RISER DIAGRAM
SCALE: NTS

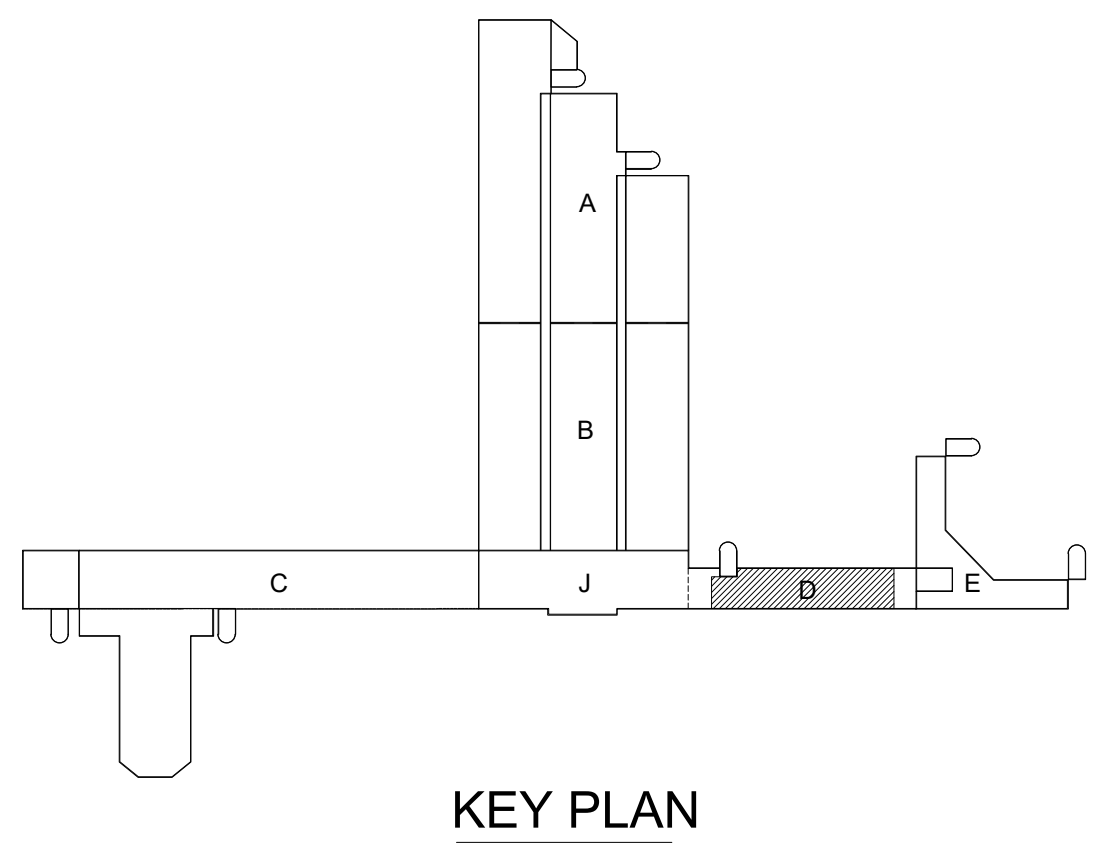
NEW PANELBOARD SCHEDULE P-A									
PANEL BOARD DESIGNATION	CKT. NO.	AMP.	BREAKER SIZE	POLES	WIRE SIZE	VOLT	DESCRIPTION	REMARKS	USE
1 #1-3W 120/240 VOLTS 125 AMPS	1	20	3/4"	1	12	120	EMT DUCT	T.H.H.N.	LIGHTING
	2	20	3/4"	1	12	120	EMT DUCT	T.H.H.N.	LIGHTING
	3	20	3/4"	1	12	120	EMT DUCT	T.H.H.N.	LIGHTING
	4	20	3/4"	1	12	120	EMT DUCT	T.H.H.N.	LIGHTING
	5	20	3/4"	1	12	120	EMT DUCT	T.H.H.N.	LIGHTING
	6	20	3/4"	1	12	120	EMT DUCT	T.H.H.N.	LIGHTING
	7	20	3/4"	2	12	120	EMT DUCT	T.H.H.N.	
	8	20	3/4"	2	12	120	EMT DUCT	T.H.H.N.	
	9	20	3/4"	2	12	120	EMT DUCT	T.H.H.N.	
	10	20	3/4"	2	12	120	EMT DUCT	T.H.H.N.	
	11	20	3/4"	2	12	120	EMT DUCT	T.H.H.N.	
	12	20	3/4"	2	12	120	EMT DUCT	T.H.H.N.	

NOTES:

1. CHANGE ALL POWER OUTLETS, REVISE FUNCTION
2. CHANGE ALL LIGHTING SWITCHES
3. PROVIDE EXITS (2) & EMERGENCY LIGHTS (2)
4. REVISE PRINCIPAL PANEL, IDENTIFY CIRCUITS
5. PROVIDE NEW 2'X2' LIGHTING FIXTURES AT CEILING
6. PROVIDE SMOKE DETECTORS AS SHOWN.

GENERAL NOTES:

- 1 - UNLESS OTHERWISE INDICATED ALL WIRES AND CABLES SHALL BE #12-AWG. UNLESS OTHERWISE INDICATED ALL WIRES AND CABLES SHALL BE COPPER, UP TO #10-AWG USE WIRE, ALL LARGER SIZES SHALL BE CABLE.
- 2 - ALL WIRES AND CABLES SHALL BE THWN/THHN-600V. INSULATION.
- 3 - PROVIDE GROUND WIRE IN ALL CONDUITS.
- 4 - PROVIDE A #12-AWG GREEN CABLE JUMPER BETWEEN THE RECEPTACLE GROUNDING SCREW AND THE OUTLET BOX GROUNDING SCREW.
- 5 - UNLESS OTHERWISE INDICATED ALL CONDUITS SHALL BE EMT.
- 6 - UNLESS OTHERWISE INDICATED ALL CONDUITS SHALL BE 1/2" DIAMETER.
- 7 - ALL UNDERGROUND CONDUIT COUPLINGS SHALL BE WATERTIGHT. AN EXPANSION JOINT COUPLING OF THE REQUIRED TYPE AND SIZE SHALL BE PROVIDED WHENEVER A CONDUIT CROSSES AN EXPANSION JOINT.
- 8 - THE CONTRACTOR MUST MAKE SURE THAT THE ENTIRE SYSTEM HAS GROUND CONTINUITY.
- 9 - PROVIDE PLASTIC CONDUIT DIVIDERS IN ALL THE UNDERGROUND CONDUIT RUNS. THE MAXIMUM DISTANCE BETWEEN THE DIVIDERS NOT TO EXCEED THE 4'-0".
- 10 - ALL THE ELECTRICAL INSTALLATION MUST BE DONE IN A NEAT AND WORK-MANLIKE MANNER, ACCORDING TO THE LAST EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C.), THE PUERTO RICO ELECTRICAL POWER AUTHORITY LATEST STANDARDS AND THE PUERTO RICO TELEPHONE COMPANY LATEST PRACTICES.
- 11 - ALL OUTLETS SHALL HAVE THEIR OWN INDEPENDENT OUTLET BOX WITH ITS APPROPRIATE RAISED COVER, COVER PLATE AND FITTINGS. MINIMUM SIZE OF OUTLET BOX TO BE 4" SQUARE BY 1 1/2" DEEP. EXACT SIZE OF OUTLET BOX TO BE DETERMINED ACCORDING TO THE MAXIMUM NUMBER OF CONDUCTORS IN THE BOX PER N.E.C. ARTICLES 370-SECTION 6.
- 12 - THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL THE POWER AND CONTROL INTERCONNECTIONS AMONG ALL THE DIFFERENT PARTS OF THE AIR CONDITIONING SYSTEMS (FAN COILS/AHU'S, CONDENSING UNITS, THERMOSTATS, ETC.). THE CONTRACTOR SHALL ALSO PROVIDE ALL THE STARTING AND DISCONNECT EQUIPMENT FOR SAID SYSTEMS.
- 13 - THE CONTRACTOR SHALL VISIT THE JOB SITE AND BECOME ACQUAINTED WITH THE EXISTING FIELD CONDITIONS. IT SHALL BE THE DIRECT RESPONSIBILITY OF THE CONTRACTOR TO BRING PROMPTLY TO THE ATTENTION OF THE ENGINEER ANY DISCREPANCIES BETWEEN THE EXISTING FIELD CONDITIONS AND THOSE THAT WERE USED FOR DESIGN PURPOSES. THIS SHALL BE DONE BEFORE THE CONTRACTOR SUBMITS HIS BID SO THAT THE ENGINEER CAN RENDER A DECISION ON THE MATTER BEFORE THE BIDS ARE RECEIVED. THE SUBMITTAL OF THE BID BY THE CONTRACTOR WILL BE HELD AS PROOF THAT THE CONTRACTOR UNDERSTANDS THOROUGHLY AND COMPLETELY THE SCOPE OF THE WORK INVOLVED, HAS FAMILIARIZED HIMSELF WITH THE EXISTING FIELD CONDITIONS AND HAS INCLUDED IN HIS BID ALL THE NECESSARY ITEMS TO CARRY OUT THE ELECTRICAL WORK. NO ALLOWANCE WILL BE PERMITTED ON THIS MATTER AFTER THE BIDS ARE RECEIVED.
- 14 - ALL THE SWITCHES AND RECEPTACLES SHALL BE IVORY COLORED WITH IVORY COLORED BAKELITE COVER PLATES, EXCEPT THE WEATHERPROOF OUTLETS WHICH SHALL HAVE THEIR STANDARD GRAY COVER PLATES. RESIDENTIAL TYPE.
- 15 - ALL BRANCH CIRCUITS THAT SUPPLY 125 VOLTS, SINGLE PHASE 15 AMPS & 20 AMPS OUTLETS INSTALLED IN DWELLING UNIT GUARD HOUSE SHALL BE PROTECTED BY AN ARC-FAULT CIRCUIT INTERRUPTOR LISTED TO PROVIDE PROTECTION OF THE ENTIRE BRANCH CIRCUIT.



KEY PLAN

GEO ENGINEERS, P.S.C.
P.O. BOX 2842 GUAYNABO, P.R. 00970
TEL: 787-782-3301 FAX: 787-783-0762
EMAIL: geobuilders@gmail.com

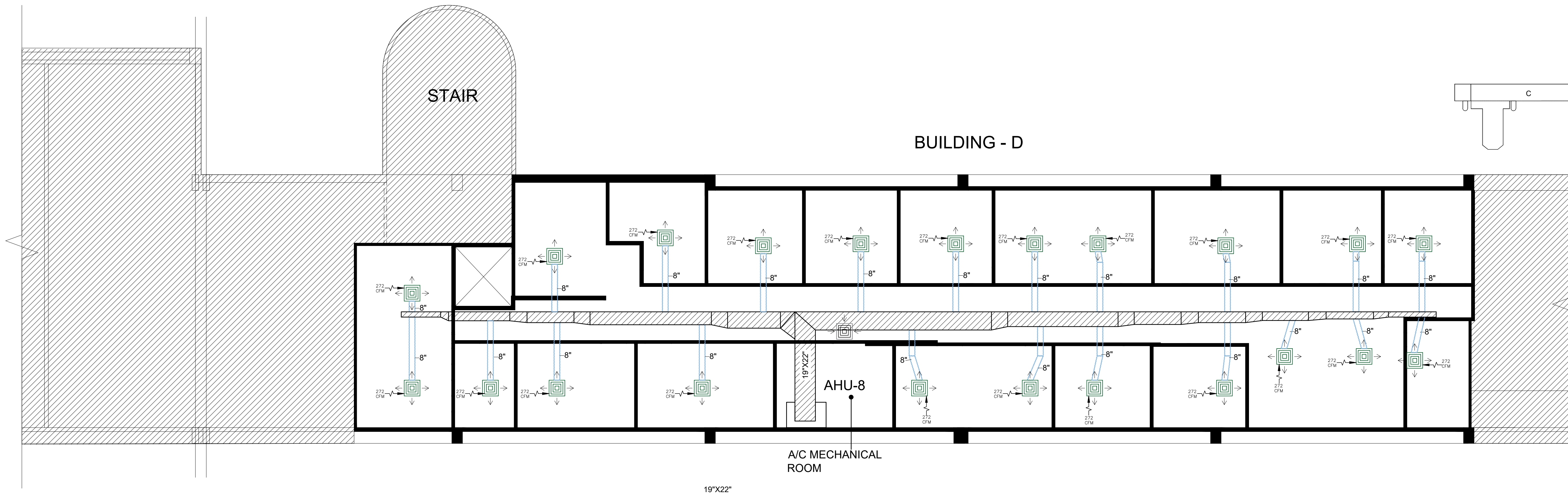


DESIGNER:
Miguel A. Velazquez
Professional Engineer
Lic. NO. 4732

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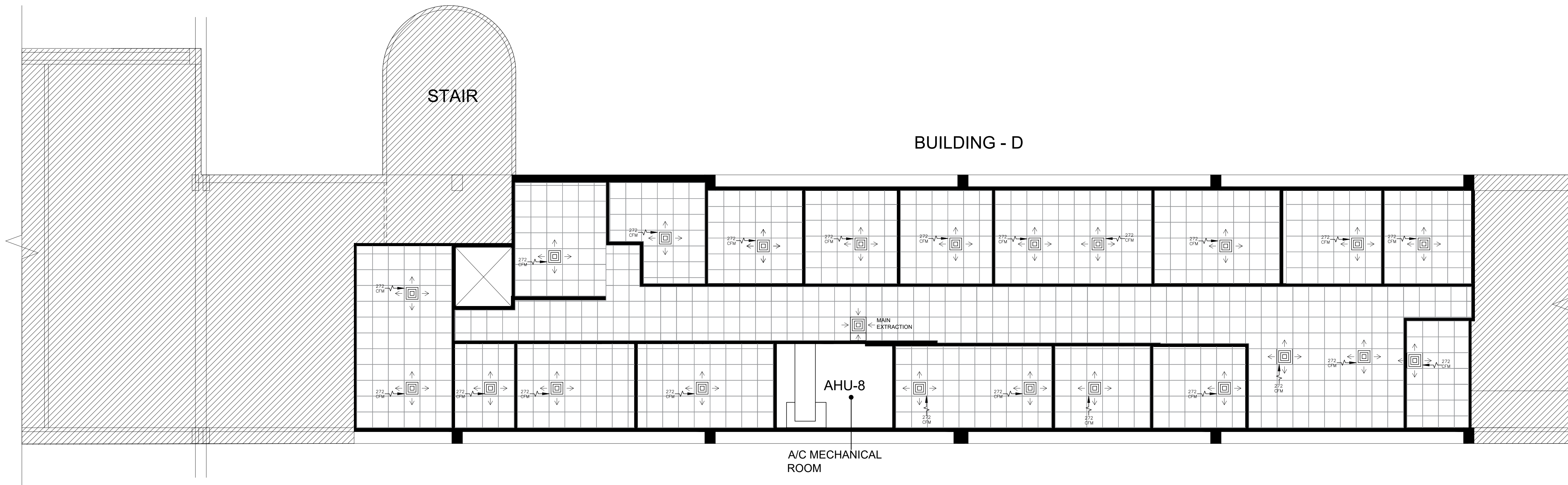
ENGINEERING & PROJECT MANAGEMENT SERVICES FOR
METROPOLITAN BUS AUTHORITY
PERMANENT REPAIRS TO PRIMA FACILITIES & EQUIPMENT (RFQ/P-2022-003)
ELECTRICAL PLAN
THE RENOVATION OF THE
NEW FEDERAL FUND OFFICES

DRAWN BY:	HR/SC
SCALE:	1/8"=1'-0"
FILE NAME:	AMA
DATE:	MAY 2024
DWG. NUM.:	E-1.0
SHEET NUM.:	5
OF:	7



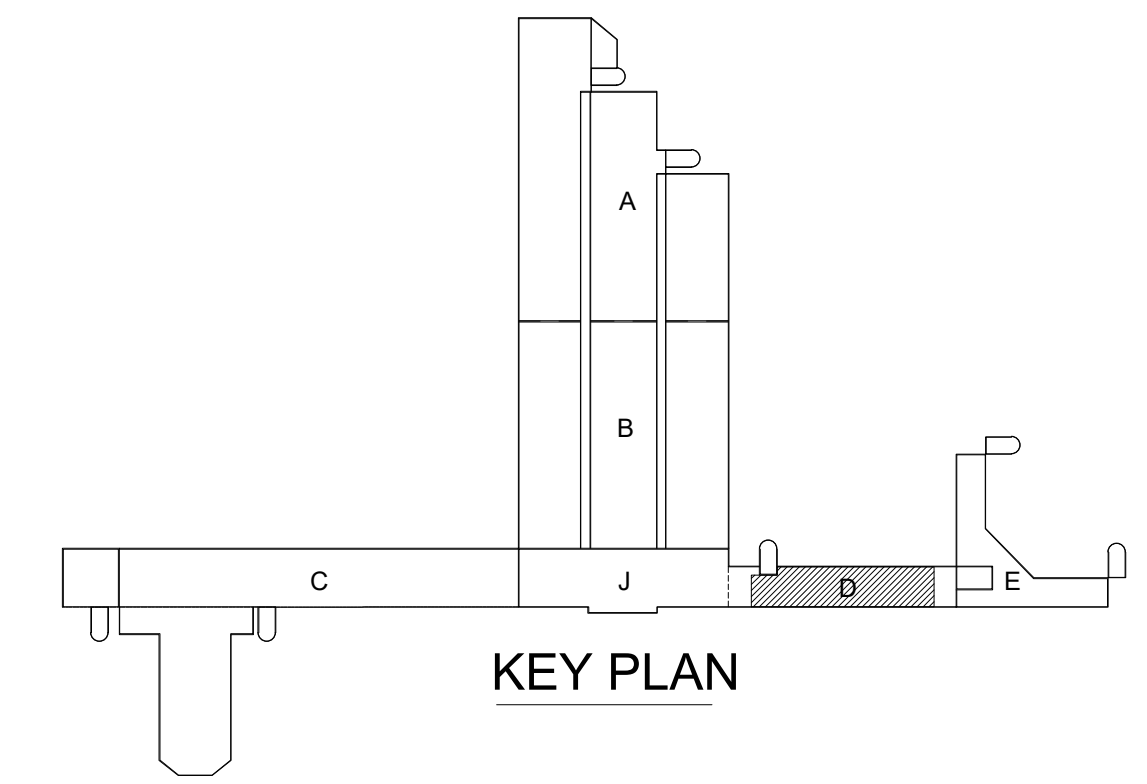
PROPOSED A/C DUCT SYSTEM

SCALE: 1/8" = 1'-0"



AC DIFFUSER DISTRIBUTION PLAN

SCALE: 1/8" = 1'-0"

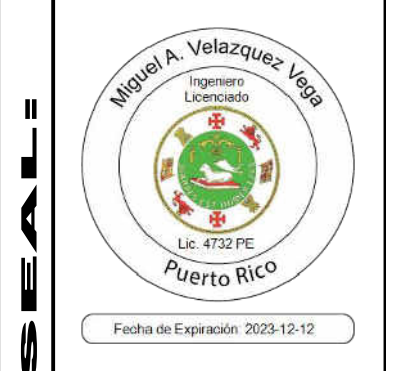


KEY PLAN

LEGEND:

- EXISTING DUCT
- PROPOSED DUCT
- AC VENT

GEO ENGINEERS, P.S.C.
 P.O. BOX 2842 GUAYNABO, P.R. 00970
 TEL: 787-782-3301 FAX: 787-783-0762
 EMAIL: geobuilders@gmail.com



DESIGNER:
 Miguel A. Velazquez
 Professional Engineer
 Lic. NO. 4732

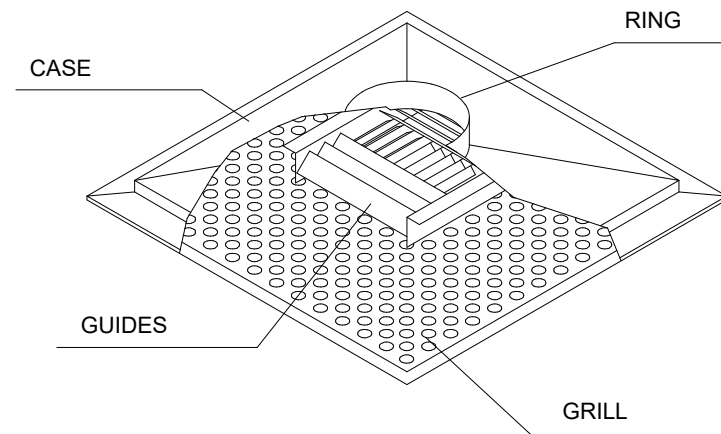
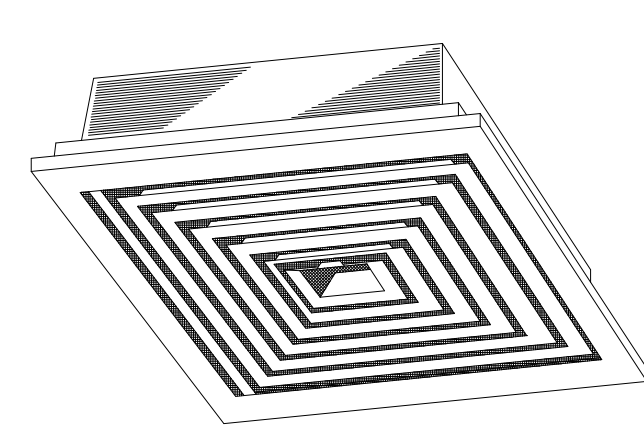
REVISIONS	
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ENGINEERING & PROJECT MANAGEMENT SERVICES FOR
METROPOLITAN BUS AUTHORITY
 PERMANENT REPAIRS TO PRMBA FACILITIES & EQUIPMENT (RFQ/P: 2022-003)
PROPOSED A/C DUCT SYSTEM
 THE RENOVATION OF THE
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DRAWN BY:	HR/SC
SCALE:	1/8"=1'-0"
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DWG. NUM.:	AC-1.0
SHEET NUM.:	6
OF:	7

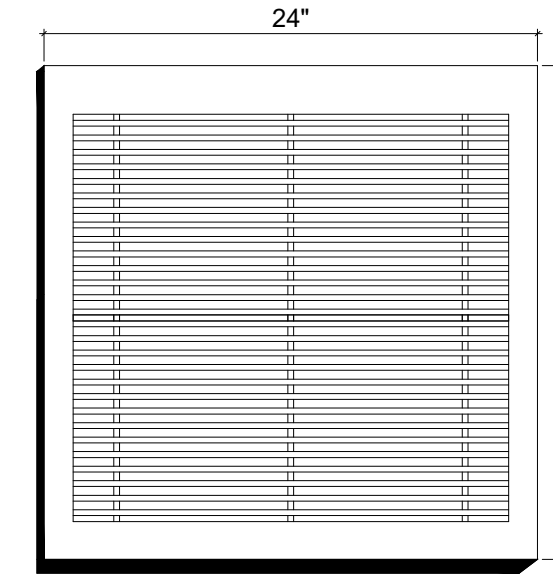
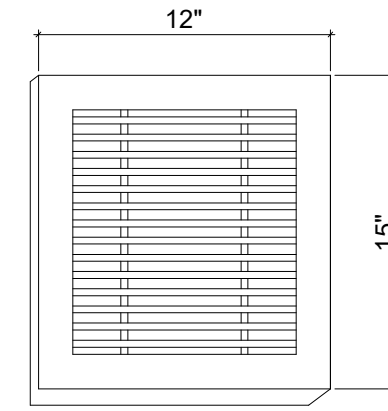
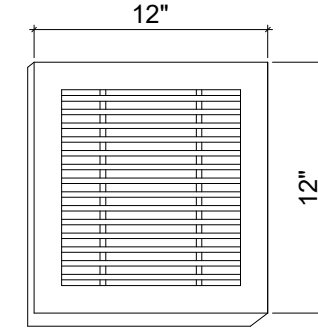
TYPICAL DETAILS FOR A/C DUCTS & CONNECTIONS

NOT TO SCALE



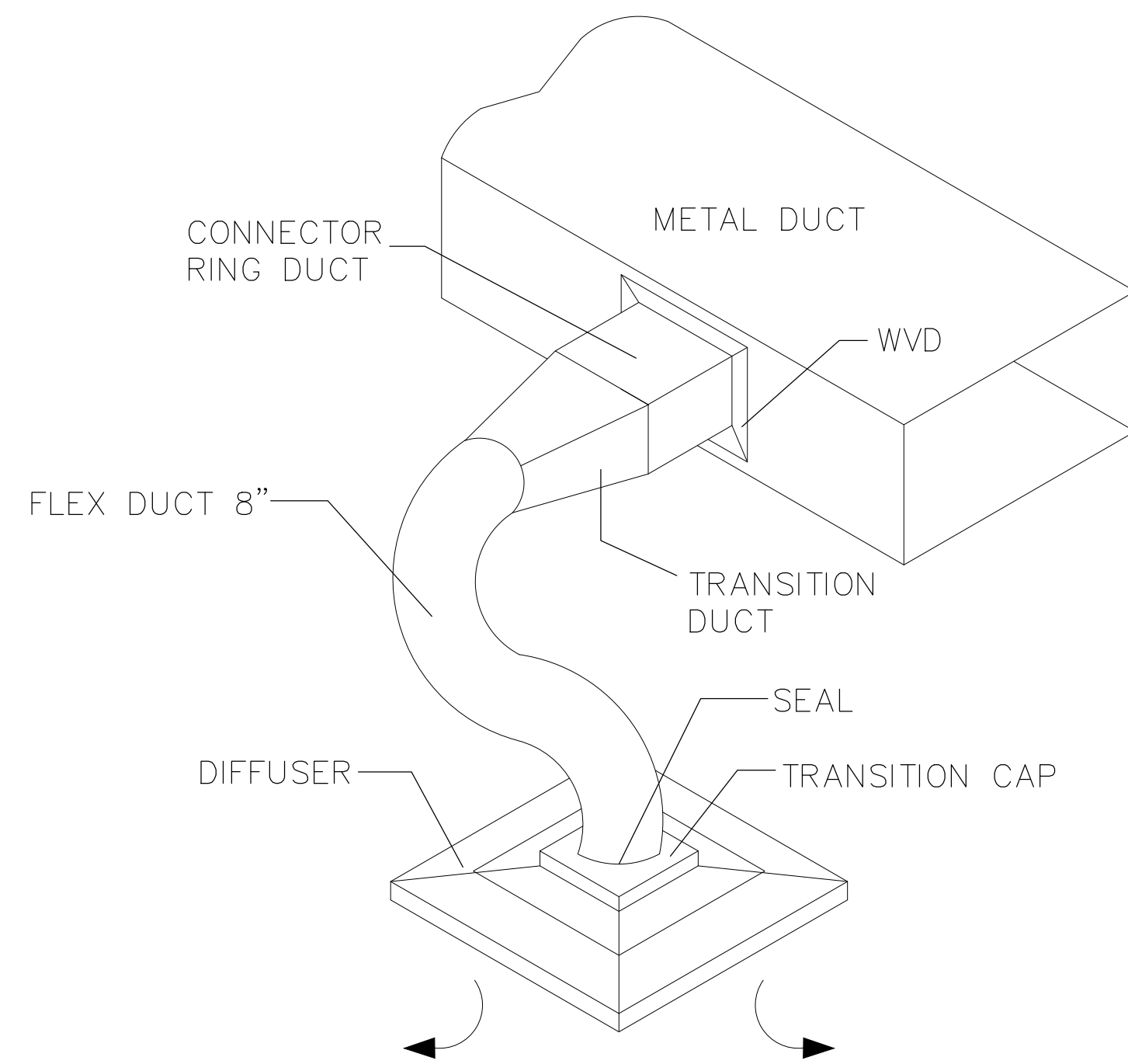
TYPICAL DIFFUSER GRILLES

NTS



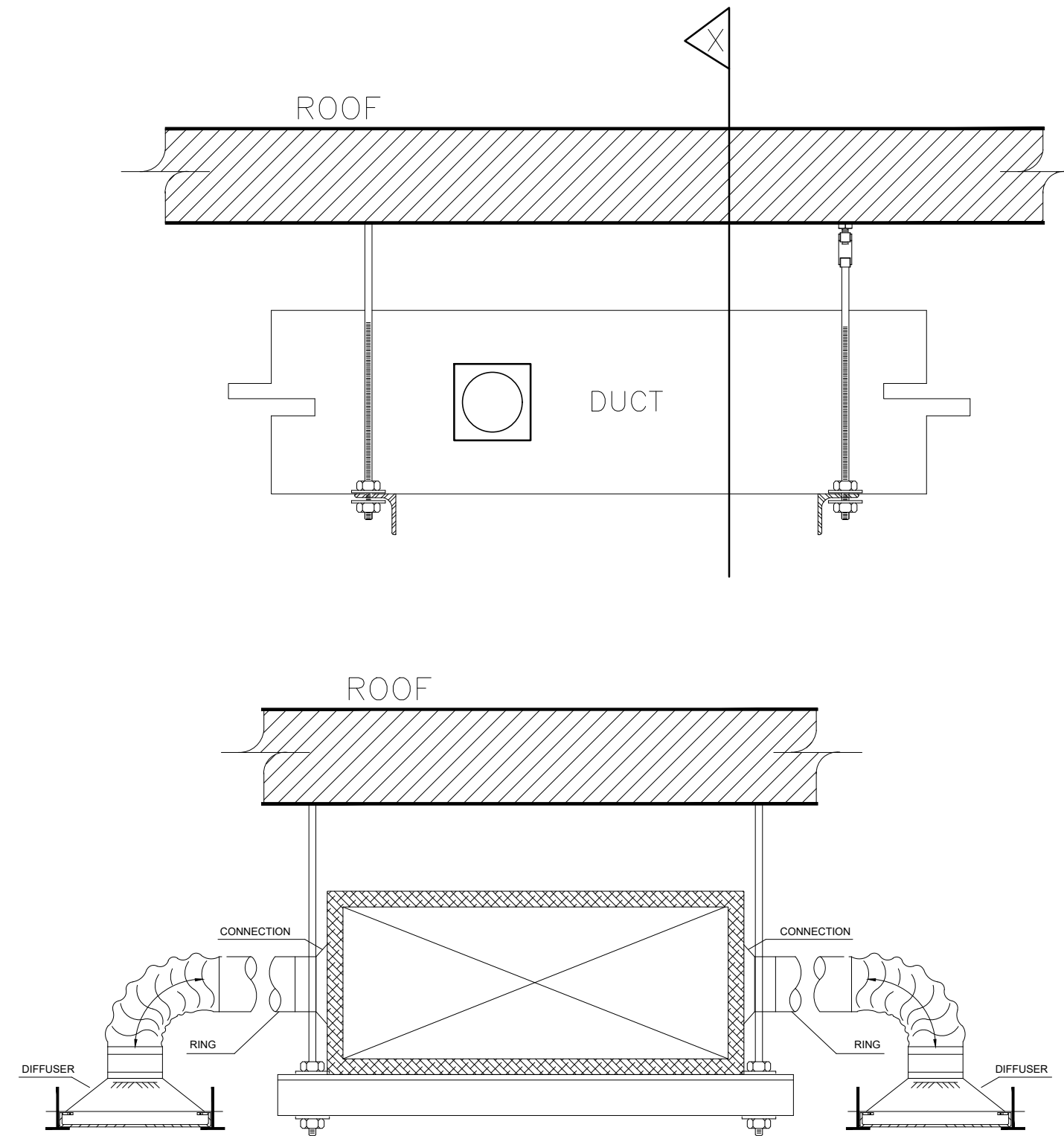
TYPICAL EXTRACTION GRILLES

NTS



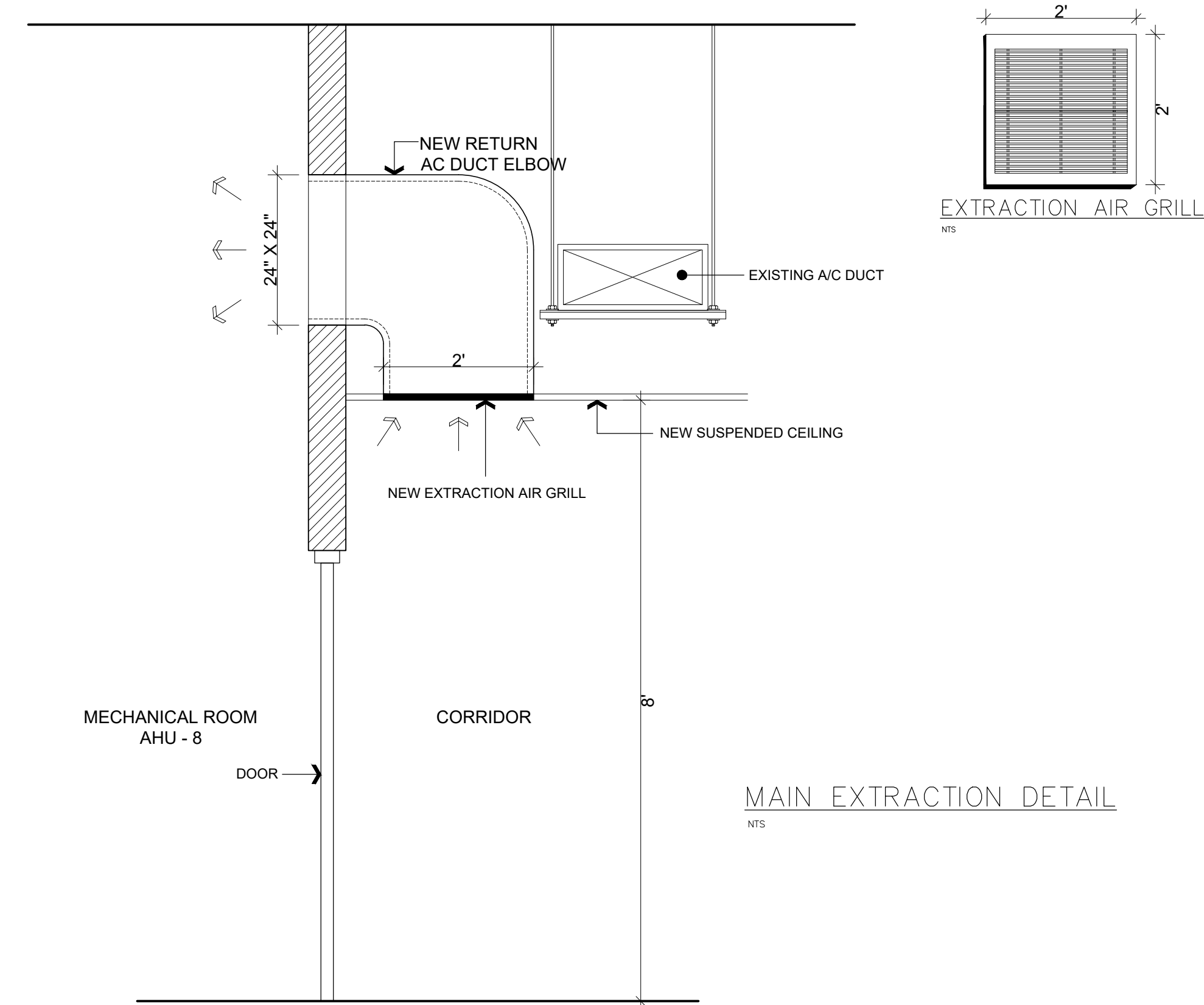
FLEX DUCT CONNECTION DETAIL

NTS



NEW FLEX DUCT CONNECTION DETAIL

NTS



MAIN EXTRACTION DETAIL

NTS

EXISTING AHU-8 UNIT SCHEDULE

UNIT NO.	SERVICE	LOCATION		TYPE	FAN							ELECTRICAL MOTOR																
		BLDG.	LEVEL		TOTAL AIR (CFM)	OUTDOOR AIR (CFM)	STATIC PRESS.		TYPE	SIZE (IN)	SPEED (RPM)	AIR DISCHARGE			MOTOR LOCATION			TYPE	RTG	BHP	HP	ELECTR. CHARACT.	SPEED (RPM)	ACCESS DOOR			WGT. (LBS.)	
							EXT (IN. WG)	TOTAL (IN. WG)				NO.	LOCATION	L (IN)	W (IN)	NO.	LOCATION							L (IN)	W (IN)	H (IN)		
AHU-8	AIR HANDLING UNIT	D	3	DRAW THROUGH	6,000	1,790	0.76	2.31	CLASS-1	18-AF	1606	1	TOP FRONT	19	22-1/8	RIGHT	HI EFF ODP	VDF DUTY	3.8	5	460/3/60	1800	1	RIGHT	42 1/2	66 1/2	45	683

NOTE: EXISTING AHU-8 SHALL BE REVIEWED FOR PROPER FUNCTIONING. CHECK WITH AIR CHILLER CONTRACTOR FOR COMPLYING WITH THIS ITEM. ALL DISTRIBUTION GRILLES SHALL BE BALANCED.

GEO ENGINEERS, P.S.C
 P.O. BOX 2842 GUAYNABO, P.R. 00970
 TEL: 787-782-3301 FAX: 787-783-0762
 EMAIL: geobuilders@gmail.com



DESIGNER:
 Miguel A. Velazquez
 Professional Engineer
 Lic. NO. 4732

REVISIONS
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4

ENGINEERING & PROJECT MANAGEMENT SERVICES FOR
METROPOLITAN BUS AUTHORITY
 PERMANENT REPAIRS TO PRMBA FACILITIES & EQUIPMENT (RFQ/P: 2022-003)
 TYPICAL DETAILS FOR A/C DUCTS & CONNECTIONS
 THE RENOVATION OF THE
 NEW FEDERAL FUND OFFICES

DRAWN BY: HR/SC

SCALE: 1/8"=1'-0"

FILE NAME: AMA

DATE: MAY 2024

DWG. NUM.: AC-2.0

SHEET NUM.: 7

OF: 7

RFP2024-001
REMODELACIÓN DE LAS FACILIDADES DE LA
OFICINA DE FONDOS FEDERALES Y PROYECTOS ESPECIALES

IV. CLÁUSULAS FEDERALES



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

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 year	√
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	<i>All</i>	<i>All</i>	<i>All</i>	<i>All</i>	<i>All</i>	√
39.	Bus Testing			<i>All, except minivans</i>			
40.	Pre-Award and Post-Delivery Audit Requirements			<i>All</i>			
41.	FTA Clauses Required when DBE threshold has been met	<i>If DBE threshold has been met</i>	<i>DBE threshold has been met</i>	<i>DBE threshold has been met</i>	<i>DBE threshold has been met</i>	<i>DBE threshold has been met</i>	√
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(1) 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, 29U.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 Contactor 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.

RFP2024-001
REMODELACIÓN DE LAS FACILIDADES DE LA
OFICINA DE FONDOS FEDERALES Y PROYECTOS ESPECIALES

V. ANEJOS



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 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 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

Company Name

or

(sign one of the two)

The bidder hereby certifies that it cannot comply with the requirements of Section 165a of the Intermodal Surface Transportation Efficiency Act of 1991, but it may qualify for an exception to the requirements pursuant to Section 165 (b) or (b) (4) of the Intermodal Surface Transportation Efficiency Act of 1991 and regulations at 49 CFR 661.7.

Signature

Date

Title

Company Name

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 \$25,000-100,000

**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 is 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 to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Signature

Date

Name

Title

Company



OMB APPROVAL NO:
2105-0510
Expiration Date: 10/31/2021

Appendix F

UNIFORM CERTIFICATION APPLICATION
DISADVANTAGED BUSINESS ENTERPRISE (DBE) /
AIRPORT CONCESSION DISADVANTAGED BUSINESS ENTERPRISE (ACDBE)
49 C.F.R. Parts 23 and 26

Roadmap for Applicants

1. Should I apply?

You may be eligible to participate in the DBE/ACDBE program if:

- The firm is a for-profit business that performs or seeks to perform transportation related work (or a concession activity) for a recipient of Federal Transit Administration, Federal Highway Administration, or Federal Aviation Administration funds.
- The firm is at least 51% owned by a socially and economically disadvantaged individual(s) who also controls it.
- The firm's disadvantaged owners are U.S. citizens or lawfully admitted permanent residents of the U.S.
- The firm meets the Small Business Administration's size standard and does not exceed \$23.98 million in gross annual receipts for DBE (\$56.42 million for ACDBEs). (Other size standards apply for ACDBE that are banks/financial institutions, car rental companies, pay telephone firms, and automobile dealers.)

2. How do I apply?

First time applicants for DBE certification must complete and submit this certification application and related material to the certifying agency in your home state and participate in an on-site interview conducted by that agency. The attached document checklist can help you locate the items you need to submit to the agency with your completed application. If you fail to submit the required documents, your application may be delayed and/or denied. Firms already certified as a DBE do not have to complete this form, but may be asked by certifying agencies outside of your home state to provide a copy of your initial application form, supporting documents, and any other information you submitted to your home state to obtain certification or to any other state related to your certification.

3. Where can I send my application? [INSERT UCP PARTICIPATING MEMBER CONTACT INFORMATION]

4. Who will contact me about my application and what are the eligibility standards? A transportation agency in your state that performs certification functions will contact you. The agency is a member of a statewide Unified Certification Program (UCP), which is required by the U.S. Department of Transportation. The UCP is a one-stop certification program that eliminates the need for your firm to obtain certification from multiple certifying agencies within your state. The UCP is responsible for certifying firms and maintaining a database of certified DBEs and ACDBEs, pursuant to the eligibility standards found in 49 C.F.R. Parts 23 and 26.

5. Where can I find more information?

U.S. DOT—<https://www.transportation.gov/civil-rights> (This site provides useful links to the rules and regulations governing the DBE/ACDBE program, questions and answers, and other pertinent information)

SBA—Small Business Size Standards matched to the North American Industry Classification System (NAICS):
<http://www.census.gov/eos/www/naics/> and <http://www.sba.gov/content/table-small-business-size-standards>.

In collecting the information requested by this form, the Department of Transportation (Department) complies with the provisions of the Federal Freedom of Information and Privacy Acts (5 U.S.C. 552 and 552a). The Privacy Act provides comprehensive protections for your personal information. This includes how information is collected, used, disclosed, stored, and discarded. Your information will not be disclosed to third parties without your consent. The information collected will be used solely to determine your firm's eligibility to participate in the Department's Disadvantaged Business Enterprise Program as defined in 49 C.F.R. §26.5 and the Airport Concession Disadvantaged Business Enterprise Program as defined in 49 C.F.R. §23.3. You may review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477).

Under 49 C.F.R. §26.107, dated February 2, 1999 and January 28, 2011, 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 2 C.F.R. Parts 180 and 1200, No procurement Suspension and Department, take enforcement action under 49 C.F.R. 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.



**INSTRUCTIONS FOR COMPLETING THE
DISADVANTAGED BUSINESS ENTERPRISE (DBE)
AIRPORT CONCESSIONS DISADVANTAGED BUSINESS ENTERPRISE (ACDBE)
UNIFORM CERTIFICATION APPLICATION**

NOTE: All participating firms must be for-profit enterprises. If your firm is not for profit, then you do NOT qualify for the DBE/ACDBE program and should not complete this application. 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. Basic Contact Information

- (1) Enter the contact name and title of the person completing this application and the person who will serve as your firm's contact for this application.
- (2) Enter the legal name of your firm, as indicated in your firm's Articles of Incorporation or charter.
- (3) Enter the primary phone number of your firm.
- (4) Enter a secondary phone number, if any.
- (5) Enter your firm's fax number, if any.
- (6) Enter the contact person's email address.
- (7) Enter your firm's website addresses, if any.
- (8) Enter the street address of the firm where its offices are physically located (not a P.O. Box).
- (9) Enter the mailing address of your firm, if it is different from your firm's street address.

B. Prior/Other Certifications and Applications

- (10) Check the appropriate box indicating whether your firm is currently certified in the DBE/ACDBE programs, and provide the name of the certifying agency that certified your firm. List the dates of any site visits conducted by your home state and any other states or UCP members. Also provide the names of state/UCP members that conducted the review.
- (11) Indicate whether your firm or any firms owned by the persons listed has ever been denied certification as a DBE/ACDBE, 8(a), or Small Disadvantaged Business (SDB) firm, or state and local MBE/WBE firm. Indicate if the firm has ever been decertified from one of these programs. Indicate if the application was withdrawn or whether the firm was debarred, suspended, or otherwise had its bidding privileges denied or restricted by any state or local agency, or Federal entity. If your answer is yes, identify the name of the agency, and explain fully the nature of the action in the space provided. Indicate if you have ever appealed this decision to the Department and if so, attach a copy of USDOT's final agency decision(s).

Section 2: GENERAL INFORMATION

A. Business profile:

- (1) Give a concise description of the firm's primary activities, the product(s) or services the company provides, or type of construction. If your company offers more than one product/service, list primary product or service first (attach additional sheets if necessary). This description may be used in our UCP online directory if you are certified as a DBE.

- (2) If you know the appropriate NAICS Code for the line(s) of work you identified in your business profile, enter the codes in the space provided.
- (3) State the date on which your firm was established as stated in your firm's Articles of Incorporation or charter.
- (4) State the date each person became a firm owner.
- (5) Check the appropriate box describing 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." **If you checked "No," then you do NOT qualify for the DBE/ACDBE program** and should not complete this application. All participating firms must be for-profit enterprises. Provide the Federal Tax ID number as stated on your firm's Federal tax return.
- (7) Check the appropriate box that describes the type of legal business structure of your firm, as indicated in your firm's Articles of Incorporation or similar document. If you checked "Other," briefly explain in the space provided.
- (8) Indicate in the spaces provided how many employees your firm has, specifying the number of employees who work on a full-time, part-time, and seasonal basis. Attach a list of employees, their job titles, and dates of employment, to your application.
- (9) Specify the firm's gross receipts for each of the past three years, as stated in your firm's filed Federal tax returns. You must submit complete copies of the firm's Federal tax returns for each year. If there are any affiliates or subsidiaries of the applicant firm or owners, you must provide these firms' gross receipts and submit complete copies of these firm(s) Federal tax returns. Affiliation is defined in 49 C.F.R. §26.5 and 13 C.F.R. Part 121.

B. Relationships and Dealings 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, financing, or any office staff and/or employees with any other business, organization or entity of any kind. If you answered "Yes," then specify the name of the other firm(s) and fully explain the nature of your relationship with these other businesses by identifying the business or person with whom you have any formal, informal, written, or oral



- agreement. Provide an explanation of any items shared with other firms in the space provided.
- (2) Check the appropriate box indicating whether any other firm currently has or had an ownership interest in your firm at present or at any time in the past. If you checked yes, please explain.
 - (3) Check the appropriate box that indicates whether at present or at any time in the past your firm:
 - (a) ever existed under different ownership, a different type of ownership, or a different name;
 - (b) existed as a subsidiary of any other firm;
 - (c) existed as a partnership in which one or more of the partners are/were other firms;
 - (d) owned any percentage of any other firm; and
 - (e) had any subsidiaries of its own.
 - (f) served as a subcontractor with another firm constituting more than 25% of your firm's receipts.

If you answered "Yes" to any of the questions in (3)(a-f), you may be asked to explain the arrangement in detail.

Section 3: MAJORITY OWNER INFORMATION

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 owner):

A. Identify the majority owner of the firm holding 51% or more ownership interest

- (1) Enter the full name of the owner.
- (2) Enter his/her title or position within your firm.
- (3) Give his/her home phone number.
- (4) Enter his/her home (street) address.
- (5) Indicate this owner's gender.
- (6) Identify the owner's ethnic group membership. 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 or 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.
- (8) Enter the number of years during which this owner has been an owner of your firm.
- (9) Indicate the percentage of the total ownership this person holds and the date acquired, including (if appropriate), the class of stock owned.
- (10) 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. Describe how you acquired your business and attach documentation substantiating this investment.

B. Additional Owner Information

- (1) Describe the familial relationship of this owner to each other owner of your firm and employees.
- (2) Indicate 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 function/title held in that business.

- (3) (a) 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, the nature of the business relationship, and the owner's function at the firm.
 - (b) If the owner works for any other firm, non-profit organization, or is engaged in any other activity more than 10 hours per week, please identify this activity.
- (4) (a) Provide the personal net worth of the owner applying for certification in the space provided. Complete and attach the accompanying "Personal Net Worth Statement for DBE/ACDBE Program Eligibility" with your application. Note, complete this section and accompanying statement only for each owner applying for DBE qualification (i.e., for each owner claiming to be socially and economically disadvantaged).
 - (b) Check the appropriate box that indicates whether any trust has been created for the benefit of the disadvantaged owner(s). If you answered "Yes," you may be asked to provide a copy of the trust instrument.
- (5) Check the appropriate to indicate whether any of your immediate family members, managers, or employees, own, manage, or are associated with another company. Immediate family member is defined in 49 C.F.R. §26.5. If you answered "Yes," provide the name of each person, your relationship to them, the name of the company, the type of business, and whether they own or manage the company.

Section 4: CONTROL

A. Identify the 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.
- (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 to indicate 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. (e.g., ownership interest, shared office space, financial investments, equipment leases, personnel sharing, etc.) If you answered "Yes," identify the name of the firm, the individual's name, and the nature of his/her business relationship with that other firm.

B. Duties of Owners, Officers, Directors, Managers and Key Personnel

- (1), (2) Specify the roles of the majority and minority owners, directors, officers, and managers, and key personnel who are responsible for the functions listed for the firm. Submit résumés for each owner and non-owner identified below. State the name of the individual, title, race



and gender and percentage ownership if any. Circle the frequency of each person's involvement as follows: "always, frequently, seldom, or never" in each area.

Indicate whether any of the persons listed in this section perform a management or supervisory function for any other business. Identify the person, business, and their title/function. Identify if any of the persons listed above own or work for any other firm(s) that has a relationship with this firm (e.g. ownership interest, shared office space, financial investment, equipment, leases, personnel sharing, etc.) If you answered "Yes," describe the nature of his/her business relationship with that other firm.

C. Inventory: Indicate firm inventory in these categories:

(1) Equipment and Vehicles

State the make and model, and current dollar value of each piece of equipment and motor vehicle held and/or used by your firm. Indicate whether each piece is either owned or leased by your firm or owner, whether it is used as collateral, and where this item is stored.

(2) Office Space

State the street address of each office space held and/or used by your firm. Indicate whether your firm or owner owns or leases the office space and the current dollar value of that property or its lease.

(3) Storage Space

State the street address of each storage space held and/or used by your firm. Indicate whether your firm or owner owns or leases the storage space and the current dollar value of that property or its lease. Provide a signed lease agreement for each property.

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," you may be asked to explain the nature of that reliance and the extent to which the other firm carries out such functions.

E. Financial / Banking Information

State the name, City and State of your firm's bank. Identify the persons able to sign checks on this account. Provide bank authorization and signature cards.

Bonding Information. State your firm's bonding limits both aggregate and project limits.

F. Sources, amounts, and purposes of money loaned to your firm, including the names of persons or firms guaranteeing the loan.

State the name and address of each source, the name of person securing the loan, original dollar amount and the current balance of each loan, and the purpose for which each

loan was made to your firm. Provide copies of signed loan agreements and security agreements

G. Contributions or transfers of assets to/from your firm and to/from any of its owners or another individual 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. 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 issuing State of the license or permit. Attach copies of licenses, license renewal forms, permits, and haul authority forms.

I. 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. 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.

Section 5: AIRPORT CONCESSION (ACDBE) APPLICANTS

Complete the entries in this section if you are applying for ACDBE certification. Indicate in Section A if you operate a concession at the airport, and/or supply a good or service to an airport concessionaire. Indicate in Section B whether the applicant firm owns or operates any off-airport locations, providing the type of business, lease information, address/location, and annual gross receipts generated. Provide similar information in section C for any airport concession locations the firm currently owns or operates. If the applicant firm has any affiliates, provide the requested information in Section D. Indicate whether the ACDBE firm is participating in any joint ventures, and if so, include the original and any amended joint venture agreements.

AFFIDAVIT & SIGNATURE

The Affidavit of Certification must accompany your application. 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.

Section 1: CERTIFICATION INFORMATION



A. Basic Contact Information

I am applying for certification as DBE ACDBE

(1) Contact person and Title: _____

(2) Legal name of firm: _____

(3) Phone #: () _____ - _____ (4) Other Phone #: () _____ - _____ (5) Fax #: () _____ - _____

(6) E-mail: _____ (7) Firm Websites: _____

(8) Street address of firm (No P.O. Box): _____ City: _____ County/Parish: _____ State: _____ Zip: _____

(9) Mailing address of firm (if different): _____ City: _____ County/Parish: _____ State: _____ Zip: _____

B. Prior/Other Certifications and Applications

(10) Is your firm currently certified for any of the following U.S. DOT programs?

DBE ACDBE Names of certifying agencies: _____

⊗ If you are certified in your home state as a DBE/ACDBE, you do not have to complete this application for other states. Ask your state UCP about the interstate certification process.

List the dates of any site visits conducted by your home state and any other states or UCP members:

Date ___/___/___ State/UCP Member: _____ Date ___/___/___ State/UCP Member: _____

(11) Indicate whether the firm or any persons listed in this application have ever been:

- (a) Denied certification or decertified as a DBE, ACDBE, 8(a), SDB, MBE/WBE firm? Yes No
- (b) Withdrawn an application for these programs, or debarred or suspended or otherwise had bidding privileges denied or restricted by any state or local agency, or Federal entity? Yes No

If yes, explain the nature of the action. (If you appealed the decision to DOT or another agency, attach a copy of the decision, _____

Section 2: GENERAL INFORMATION

A. Business Profile: (1) Give a concise description of the firm's primary activities and the product(s) or service(s) it provides. If your company offers more than one product/service, list the primary product or service first. Please use additional paper if necessary. This description may be used in our database and the UCP online directory if you are certified as a DBE or ACDBE.

(2) Applicable NAICS Codes for this line of work include: _____

(3) This firm was established on ___/___/___ (4) I/We have owned this firm since: ___/___/___



(5) Method of acquisition (Check all that apply):

- Started new business
- Bought existing business
- Inherited business
- Gifted
- Merger or consolidation
- Other (explain) _____

(6) Is your firm "for profit"? Yes
Federal Tax ID# _____

No → **STOP!** If your firm is NOT for-profit, then you do NOT qualify for this program and should not fill out this application.

(7) Type of Legal Business Structure: (check all that apply):

- Sole Proprietorship
- Limited Liability Partnership
- Partnership Corporation
- Limited Liability Company Other, Describe _____

(8) Number of employees: Full-time _____ Part-time _____ Seasonal _____ Total _____
(Provide a list of employees, their job titles, and dates of employment, to your application).

(9) Specify the firm's gross receipts for the last 3 years. (Submit complete copies of the firm's Federal tax returns for each year. If there are affiliates or subsidiaries of the applicant firm or owners, you must submit complete copies of these firms' Federal tax returns).

Year _____	Gross Receipts of Applicant Firm \$ _____	Gross Receipts of Affiliate Firms \$ _____
Year _____	Gross Receipts of Applicant Firm \$ _____	Gross Receipts of Affiliate Firms \$ _____
Year _____	Gross Receipts of Applicant Firm \$ _____	Gross Receipts of Affiliate Firms \$ _____

B. Relationships and Dealings 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 or storage space, yard, warehouse, facilities, equipment, inventory, financing, office staff, and/or employees with any other business, organization, or entity? Yes No

If Yes, explain the nature of your relationship with these other businesses by identifying the business or person with whom you have any formal, informal, written, or oral agreement. Also detail the items shared

(2) Has any other firm had an ownership interest in your firm at present or at any time in the past?

Yes No If Yes, explain _____

(3) At present, or at any time in the past, has your firm:

- (a) Ever existed under different ownership, a different type of ownership, or a different name? Yes No
- (b) Existed as a subsidiary of any other firm? Yes No
- (c) Existed as a partnership in which one or more of the partners are/were other firms? Yes No
- (d) Owned any percentage of any other firm? Yes No
- (e) Had any subsidiaries? Yes No

(f) Served as a subcontractor with another firm constituting more than 25% of your firm's receipts? Yes No
(If you answered "Yes" to any of the questions in (2) and/or (3)(a)-(f), you may be asked to provide further details and explain whether the arrangement continues).

Section 3: MAJORITY OWNER INFORMATION



A. Identify the majority owner of the firm holding 51% or more ownership interest.

(1) Full Name: _____ (2) Title: _____ (3) Home Phone #: _____
 () _____ - _____

(4) Home Address (Street and Number): _____ City: _____ State: _____ Zip: _____
 _____ - _____

(5) Gender: Male Female

(8) Number of years as owner: _____

(9) Percentage owned: _____ %

Class of stock owned: _____ Date acquired _____

(6) Ethnic group membership (Check all that apply):

- Black
- Hispanic
- Asian Pacific
- Native American
- Subcontinent Asian
- Other (specify) _____

(10) Initial investment to acquire ownership interest in firm:	Type	Dollar Value
	Cash	\$ _____
	Real Estate	\$ _____
	Equipment	\$ _____
	Other	\$ _____

Describe how you acquired your business:

- Started business myself.
- It was a gift from: _____
- I bought it from: _____
- I inherited it from: _____
- Other _____

(Attach documentation substantiating your investment)

(7) U.S. Citizenship: U.S. Citizen
 Lawfully Admitted Permanent Resident

B. Additional Owner Information

(1) Describe familial relationship to other owners and employees:

(2) Does this owner perform a management or supervisory function for any other business? Yes No

If Yes, identify: Name of Business: _____ Function/Title: _____

(3)(a) Does this owner 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

Identify the name of the business, and the nature of the relationship, and the owner's function at the firm:

(b) Does this owner work for any other firm, non-profit organization, or engage in any other activity more than 10 hours per week? If yes, identify this activity: _____

(4)(a) What is the personal net worth of this disadvantaged owner applying for certification? \$ _____

(b) Has any trust been created for the benefit of this disadvantaged owner(s)? Yes No

(If Yes, you may be asked to provide a copy of the trust instrument).

(5) Do any of your immediate family members, managers, or employees own, manage, or are associated with another company? Yes No If Yes, provide their name, relationship, company, type of business, and indicate whether they own or manage the company: (Please attach extra sheets, if needed): _____

Section 3: OWNER INFORMATION, Cont'd.



A. Identify all individuals, firms, or holding companies that hold LESS THAN 51% ownership interest in the firm (Attach separate sheets for each additional owner)

(1) Full Name: _____	(2) Title: _____	(3) Home Phone #: _____ () _____ - _____
(4) Home Address (Street and Number): _____	City: _____	State: _____ Zip: _____

(5) Gender: Male Female

(6) Ethnic group membership (Check all that apply)

Black
 Hispanic
 Asian Pacific
 Native American
 Subcontinent Asian
 Other (specify) _____

(7) U.S. Citizenship:
 U.S. Citizen
 Lawfully Admitted Permanent Resident

(8) Number of years as owner: _____

(9) Percentage owned: _____ %
 Class of stock owned: _____ Date acquired _____

(10) Initial investment to acquire ownership interest in firm:

<u>Type</u>	<u>Dollar Value</u>
Cash	\$ _____
Real Estate	\$ _____
Equipment	\$ _____
Other	\$ _____

Describe how you acquired your business:
 Started business myself.
 It was a gift from: _____
 I bought it from: _____
 I inherited it from: _____
 Other _____

(Attach documentation substantiating your investment)

B. Additional Owner Information

(1) Describe familial relationship to other owners and employees:

(2) Does this owner perform a management or supervisory function for any other business? Yes No
 If Yes, identify: Name of Business: _____ Function/Title: _____

(3)(a) Does this owner 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
 Identify the name of the business, and the nature of the relationship, and the owner's function at the firm:

(b) Does this owner work for any other firm, non-profit organization, or is engaged in any other activity more than 10 hours per week? If yes, identify this activity: _____

(4)(a) What is the personal net worth of this disadvantaged owner applying for certification? \$ _____

(b) Has any trust been created for the benefit of this disadvantaged owner(s)? Yes No
(If Yes, you may be asked to provide a copy of the trust instrument).

(5) Do any of your immediate family members, managers, or employees own, manage, or are associated with another company? Yes No If Yes, provide their name, relationship, company, type of business, and indicate whether they own or manage: *(Please attach extra sheets, if needed):* _____

Section 4: CONTROL



A. Identify your firm's Officers and 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)				
(2) Board of Directors	(a)				
	(b)				
	(c)				
	(d)				

(3) Do any of the persons listed above perform a management or supervisory function for any other business?

Yes No If Yes, identify for each:

Person: _____ Title: _____
 Business: _____ Function: _____

Person: _____ Title: _____
 Business: _____ Function: _____

(4) Do any of the persons listed in section A 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. Duties of Owners, Officers, Directors, Managers, and Key Personnel

1. Complete for all Owners who are responsible for the following functions of the firm (Attach separate sheets as needed).

A = Always F = Frequently	S = Seldom N = Never	Majority Owner (51% or more)				Minority Owner (49% or less)			
		Name: _____	Title: _____	Percent Owned: _____		Name: _____	Title: _____	Percent Owned: _____	
Sets policy for company direction/scope of operations		A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Bidding and estimating		A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Major purchasing decisions		A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Marketing and sales		A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Supervises field operations		A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Attend bid opening and lettings		A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Perform office management (billing, accounts receivable/payable, etc.)		A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Hires and fires management staff		A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Hire and fire field staff or crew		A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Designates profits spending or investment		A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Obligates business by contract/credit		A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Purchase equipment		A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Signs business checks		A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>



2. Complete for all Officers, Directors, Managers, and Key Personnel who are responsible for the following functions of the firm. (Attach separate sheets as needed).

A= Always S = Seldom F = Frequently N = Never	Officer/Director/Manager/Key Personnel				Officer/Director/Manager/ Key Personnel			
	Name: _____ Title: _____ Race and Gender: _____ Percent Owned: _____				Name: _____ Title: _____ Race and Gender: _____ Percent Owned: _____			
Sets policy for company direction/scope of operations	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Bidding and estimating	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Major purchasing decisions	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Marketing and sales	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Supervises field operations	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Attend bid opening and lettings	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Perform office management (billing, accounts receivable/payable, etc.)	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Hires and fires management staff	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Hire and fire field staff or crew	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Designates profits spending or investment	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Obligates business by contract/credit	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Purchase equipment	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>
Signs business checks	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>	A <input type="checkbox"/>	F <input type="checkbox"/>	S <input type="checkbox"/>	N <input type="checkbox"/>

Do any of the persons listed in B1 or B2 perform a management or supervisory function for any other business? If Yes, identify the person, the business, and their title/function: _____

Do any of the persons listed 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.) If Yes, describe the nature of the business relationship: _____

C. Inventory: Indicate your firm's inventory in the following categories (Please attach additional sheets if needed):=

1. Equipment and Vehicles

Make and Model	Current Value	Owned or Leased by Firm or Owner?	Used as collateral?	Where is item stored?
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				

2. Office Space

Street Address Owned or Leased by Firm or Owner? Current Value of Property or Lease



3. Storage Space (Provide signed lease agreements for the properties listed)

Street Address

Owned or Leased by Firm or Owner?

Current Value of Property or Lease

D. Does your firm rely on any other firm for management functions or employee payroll? Yes No

E. Financial/Banking Information (Provide bank authorization and signature cards)

Name of bank: _____ City and State: _____
The following individuals are able to sign checks on this account: _____

Name of bank: _____ City and State: _____
The following individuals are able to sign checks on this account: _____

Bonding Information: If you have bonding capacity, identify the firm's bonding aggregate and project limits:
Aggregate limit \$ _____ Project limit \$ _____

F. Identify all sources, amounts, and purposes of money loaned to your firm including from financial institutions. Identify whether you the owner and any other person or firm loaned money to the applicant DBE/ACDBE. Include the names of any persons or firms guaranteeing the loan, if other than the listed owner. (Provide copies of signed loan agreements and security agreements).

Name of Source	Address of Source	Name of Person Guaranteeing 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 or another individual 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	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. _____	_____	_____	_____	_____	_____

Additional Information:



SECTION 5 - AIRPORT CONCESSION
(ACDBE APPLICANTS ONLY)

A. I am applying for ACDBE certification to: *(check all that apply)*

- Operate a concession at an airport Supply a good or service to an airport concessionaire

B. Does the applicant firm own/operate any off-airport locations? Yes No *If Yes, identify the following*

Type of Business (e.g., F&B, News & Gift, Retail, Duty Free, Advertising, etc.)	Lease Term (years)	Lease Start Date	Address / Location	Annual Gross Receipts Generated

C. Does the applicant firm currently own/operate any airport concession locations? Yes No *If Yes, supply the following information:*

Airport Name	Concession Type (e.g., F&B, News & Gift, Retail, Duty Free, Advertising, etc.)	Number of Leases	Number of Locations	Annual Gross Receipts Generated	Lease Type <i>(e.g. Direct Lease, Subcontract Management Agreement, etc. enter all that apply to the leases listed)</i>

D. Does the applicant firm have any affiliates? Yes No *If Yes, provide the following information concerning any locations owned/operated by affiliate firms.*

Airport Name	Concession Type (e.g., F&B, News & Gift, Retail, Duty Free, Advertising, etc.)	Number of Leases	Number of Locations	Annual Gross Receipts Generated	Lease Type <i>(e.g. Direct Lease, Subcontract Management Agreement, etc. enter all that apply to the leases listed)</i>

E. Is the ACDBE applicant firm a participant in any joint ventures? Yes No *If Yes, attach all original and any amended Joint Venture Agreements and any amendments to the agreements.*



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 PENALTIES AVAILABLE PURSUANT TO APPLICABLE FEDERAL AND STATE LAW.

I _____ (full name printed),
swear or affirm under penalty of law that I am

_____ (title) of the applicant firm
_____ 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, subcontract, concession lease or sublease, 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 of any material change in the information contained in the original application within 30 calendar days of such change (e.g., ownership changes, address/telephone number, personal net worth exceeding \$1.32 million, 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 or Airport Concession Disadvantaged Business Enterprise. 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): (Check all that apply):

- Female Black American Hispanic American
- Native American Asian-Pacific American
- Subcontinent Asian American 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 \$1.32 million, 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.

Signature _____ (DBE/ACDBE Applicant) _____ (Date)

NOTARY CERTIFICATE

UNIFORM CERTIFICATION APPLICATION SUPPORTING DOCUMENTS CHECKLIST



In order to complete your application for DBE or ACDBE certification, you must attach copies of all of the following **REQUIRED** documents. A failure to supply any information requested by the UCP may result in your firm denied DBE/ACDBE certification.

Required Documents for All Applicants

- Résumés (that include places of employment with corresponding dates), for all owners, officers, and key personnel of the applicant firm
- Personal Net Worth Statement for each socially and economically disadvantaged owners who the applicant firm relies upon to satisfy the Regulation's 51% ownership requirement.
- Personal Federal tax returns for the past 3 years, if applicable, for each disadvantaged owner
- Federal tax returns (and requests for extensions) filed by the firm and its affiliates with related schedules, for the past 3 years.
- Documented proof of contributions used to acquire ownership for each owner (*e.g., both sides of cancelled checks*)
- Signed loan and security agreements, and bonding forms
- List of equipment and/or vehicles owned and leased including VIN numbers, copy of titles, proof of ownership, insurance cards for each vehicle.
- Title(s), registration certificate(s), and U.S. DOT numbers for each truck owned or operated by your firm
- Licenses, license renewal forms, permits, and haul authority forms
- Descriptions of all real estate (including office/storage space, etc.) owned/leased by your firm and documented proof of ownership/signed leases
- Documented proof of any transfers of assets to/from your firm and/or to/from any of its owners over the past 2 years
- DBE/ACDBE and SBA 8(a), SDB, MBE/WBE certifications, denials, and/or decertification's, if applicable; and any U.S. DOT appeal decisions on these actions.
- Bank authorization and signatory cards
- Schedule of salaries (or other remuneration) paid to all officers, managers, owners, and/or directors of the firm
- List of all employees, job titles, and dates of employment.
- Proof of warehouse/storage facility ownership or lease arrangements

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(s)
- Minutes of all stockholders and board of director's 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)

Optional Documents to Be Provided on Request

The certifying agency to which you are applying may require the submission of the following documents. If requested to provide these document, you must supply them with your application or at the on-site visit.

- Proof of citizenship
- Insurance agreements for each truck owned or operated by your firm
- Audited financial statements (if available)
- Trust agreements held by any owner claiming disadvantaged status
- Year-end balance sheets and income statements for the past 3 years (*or life of firm, if less than three years*)

Suppliers

- List of product lines carried and list of distribution equipment owned and/or leased



Anejo B

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:

Corporación Foránea

Nombre del Agente Residente

Dirección

Teléfonos / Fax



Anejo C

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



Anejo D

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



ANEJO E
CERTIFICACIÓN DE AUSENCIA DE CONFLICTO DE INTERÉS

SOLICITUD DE PROPUESTAS SELLADAS (RFP) 2024-001
REMODELACIÓN DE LAS FACILIDADES DE LA
OFICINA DE FONDOS FEDERALES Y PROYECTOS ESPECIALES

Yo, _____, de edad legal, de estado civil (casado/soltero), y residente de _____, he sido designado como representante autorizado de _____ ("el proponente") para el proceso de subasta en referencia, de la Autoridad Metropolitana de Autobuses (AMA). En virtud del interés de participar en la subasta en referencia, y consciente de que la AMA está altamente comprometida con lograr una administración de excelencia y promover el uso efectivo de los recursos del gobierno en beneficio de Puerto Rico, y por consiguiente apoyar y cumplir con la Ley 2-2018, conocida como el Código Anti-Corrupción para el Nuevo Puerto Rico, según enmendada, incluyendo el Título III, Código de Ética para Contratistas, Suplidores y Solicitantes de Incentivos Económicos del Gobierno de Puerto Rico, certifico que:

1. Ningún servidor público o empleado de la AMA tiene un interés pecuniario con alguno de los Proponentes que participan en este Proceso de Adquisición, ni lo han tenido -directa o indirectamente- en los últimos cuatro (4) años.
2. Ningún servidor público o empleado de la AMA ha solicitado o aceptado, directa o indirectamente, por parte de cualquier persona o entidad con interés en este Proceso de Adquisición, incluyendo al Proponente, bienes de cualquier valor económico -incluyendo regalos, propinas, favores, servicios, donativos, préstamos y/o cualquier otra cosa de valor monetario- para sí y/o para algún miembro de su familia inmediata y/o familiares y/o para cualquier otra persona, como mecanismo de pago por llevar a cabo los deberes y responsabilidades de su posición relacionado a este Proceso de Adquisición.
3. Ningún servidor público o empleado de la AMA ha solicitado o aceptado, directa o indirectamente, por parte de cualquier persona o entidad, incluyendo al Proponente, bienes de cualquier valor económico -incluyendo regalos, propinas, favores, servicios, donativos, préstamos y/o cualquier otra cosa de valor monetario- para sí y/o para algún miembro de su familia inmediata y/o familiares y/o para cualquier otra persona, a cambio de que su actuación influya el resultado final de este Proceso de Adquisición.
4. No tengo una relación de parentesco dentro del cuarto (4to) grado de consanguinidad y/o segundo (2do) de afinidad, con algún servidor público o empleado de la AMA que participe o inflencie -o tenga la capacidad para hacerlo- en las decisiones institucionales de la AMA.

5. En el caso de que el Proponente revele a la AMA un conflicto de intereses aparente, potencial o real, la AMA tomará las medidas apropiadas para abordar la divulgación tomando las siguientes medidas, que incluyen, entre otras, eliminar, mitigar o neutralizar el conflicto aparente, potencial o real, cuando corresponda, a través de medios tales como garantizar un equilibrio de puntos de vista, divulgación con los descargos de responsabilidad apropiados, restringiendo o modificando el trabajo a realizar para evitar o reducir el conflicto aparente, potencial o real.
6. Si el Proponente descubre un conflicto de intereses aparente, potencial o real después de que concluya el Proceso de Adquisición, hará una divulgación completa por escrito a la AMA. Esta divulgación incluirá una descripción de las acciones que el Proponente ha tomado o se propone tomar para evitar, mitigar o neutralizar el conflicto de intereses aparente, potencial o real.
7. El Proponente no tiene intereses presentes o actualmente planificados (financieros, contractuales, organizativos o de otro tipo) relacionados con el contrato o la orden de tarea que puedan resultar de este Proceso de Adquisición que crearía cualquier conflicto de intereses aparente, real o potencial (incluidos los conflictos de intereses para los miembros de la familia inmediata: cónyuges, padres, hijos) que afectaría su capacidad de ser imparcial, asistencia o asesoramiento técnicamente sólidos y objetivos, o que den lugar a que se le otorgue una ventaja competitiva desleal.
8. El Proponente ha ejercido, y continuará ejerciendo, la debida diligencia para evitar, identificar, eliminar o mitigar cualquier conflicto de intereses aparente, potencial o real a satisfacción de la AMA.
9. El proponente hace constar que su oferta es genuina y no colusoria o falsa; y que no ha conspirado, hecho contubernio, o acordado, directa o indirectamente, con ningún otro licitador o persona, presentar una oferta falsa, o abstenerse de licitar y no ha buscado en ningún asunto, directa o indirectamente, por acuerdo o contubernio, comunicación o conferencia, con cualquier persona, para fijar el precio de oferta del declarante o de cualquier otro licitador, o para fijar cualquier elemento general, de ganancia o costo de dicho precio de oferta, o del de cualquier otro postor, o para asegurar cualquier ventaja contra la AMA.

En virtud de lo anterior, yo, el/la Representante Autorizado(a) del Proponente, también, certifico que:

Tengo el compromiso de cumplir con las disposiciones aplicables de la Ley 2-2018, conocida como el Código Anti-Corrupción para el Nuevo Puerto Rico, según enmendada, incluyendo el Título III, Código de Ética para Contratistas, Suplidores y Solicitantes de Incentivos Económicos del Gobierno de Puerto Rico y reconocemos que esta aceptación es una condición esencial e indispensable para que se puedan efectuar transacciones o que se establezcan acuerdos con la AMA.

Muy en especial, certificamos que la persona natural o jurídica, que aquí desea participar de la adjudicación de una subasta o en el otorgamiento de algún contrato, con la AMA, para la realización de servicios o la venta o entrega de bienes, que ni la persona natural o jurídica, o cualquier presidente, vicepresidente, director, director ejecutivo, o miembro de una junta de oficiales o junta de directores, o personas que desempeñen funciones equivalentes para la persona jurídica, ha sido convicta o se ha declarado culpable de cualquiera de los delitos enumerados en la Sección 6.8 de la [Ley 8-2017](#), según enmendada, conocida como "Ley Administración y Transformación de los Recursos Humanos en el Gobierno de Puerto Rico", o por cualquiera de los delitos contenidos en el referido Código.

En _____, Puerto Rico, hoy, _____.

Firma:

Nombre en letra de molde:

Número de seguro social:

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

RFP2024-001
REMODELACIÓN DE LAS FACILIDADES DE LA
OFICINA DE FONDOS FEDERALES Y PROYECTOS ESPECIALES

VI. HOJA DE OFERTAS



AMA-01

HOJA DE OFERTAS

Solicitud de Propuestas Selladas Núm. (RFP) 2024-001

Nombre de la Empresa:

Nombre del Representante Autorizado:

Dirección Postal:

Teléfono:

Correo Electrónico:

Número de Licitador (RUL)*:

PARTIDA	DESCRIPCIÓN	UNIDAD	CANTIDAD	COSTO UNITARIO	COSTO POR PARTIDA
ELECTRICITY					
1	Lighting Fixture	EA	33	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
2	Exit Lights	EA	6	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
3	Power Outlets & Switches	LS	1	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
4	Electric Panel	EA	1	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
5	Installations & Misc.	LS	1	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				

PARTIDA	DESCRIPCIÓN	UNIDAD	CANTIDAD	COSTO UNITARIO	COSTO POR PARTIDA
AIR CONDITIONING					
1	New Duct & Grilles	LS	1	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
2	New Return Grilles	LS	1	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
3	Controls	LS	1	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
4	Balance	LS	1	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
5	Revise A/C Unit 8	LS	1	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
6	Installations & Misc.	LS	1	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				

PARTIDA	DESCRIPCIÓN	UNIDAD	CANTIDAD	COSTO UNITARIO	COSTO POR PARTIDA
ARCHITECTURE					
1	Remove Metal Ceiling	SF	2,700	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
2	New Acoustic Tiles 2' x 2'	SF	3,859	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
3	Repair Glass Windows	LS	1	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
4	New Kitchenette	EA	1	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
5	Plastic Film @ Glass	SF	1,383	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				

PARTIDA	DESCRIPCIÓN	UNIDAD	CANTIDAD	COSTO UNITARIO	COSTO POR PARTIDA
ARCHITECTURE					
6	Repair Vynil Tiles & Bases	SF	3,860	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
7	Clean & Polish Vinyl Tiles	SF	3,860	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
8	Painting Walls	SF	6,227	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
9	Painting Doors (Wood & Metal)	SF	365	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				

PARTIDA	DESCRIPCIÓN	UNIDAD	CANTIDAD	COSTO UNITARIO	COSTO POR PARTIDA
ARCHITECTURE					
10	Painting Glass Frames	LF	1,619	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
11	Review Door Hardware	LS	1	\$	\$
	Especificaciones:				
	Términos y Condiciones:				
	Garantía:				
	Término de Entrega:				
Oferta				\$	
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 instrucciones 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:



- Indique si esta es una oferta que enmienda alguna otra sometida previamente.

* En caso de no poseer certificación del RUL, siga las instrucciones dispuestas en la Sección R de las instrucciones de la subasta.