City of Cleveland
Justin M. Bibb, Mayor

Department of Finance
Division of Purchases & Supplies
601 Lakeside Avenue, Room 128
Cleveland, Ohio 44114-1080
216/664-2620 • Fax: 216/664-2177
www.cleveland-oh.gov

March 27, 2024

ADDENDUM No. 3

BID TITLE: **Reference: File No. 19-24 RTA Tunnel Membrane Replacement**

BID DUE: ***Extended to Friday, April 12, 2024*** **from Friday, March 22, 2024 at 12:00 pm, Noon. Bid must be delivered to the Office of the Commissioner of Purchases and Supplies, Cleveland City Hall, 601 Lakeside Avenue, Room 128, Cleveland, Ohio 44114 before 12 o'clock noon (Eastern Time).**

Attention Bidders:
The purpose of this addendum is to advise all bidders of the following information: previously submitted:

1. The bid opening date **has been extended** to Friday, April 12, 2024.
2. Revised Bid Forms
3. Revised Specifications
4. Responses to all questions received prior to the question deadline date of March 1, 2024.

Also, please acknowledge receipt of this addendum by faxing directly to my attention at (216) 664-2177 or email to both jgilliam@clevelandohio.gov and purchasing@clevelandohio.gov.us.

_____ _____
Print & Sign Potential Bidder & Company Name Today's Date

Thank you,

J. Gilliam @ 2024

Jules Gilliam, Buyer
Division of Purchases & Supplies

City of Cleveland
Justin M. Bibb, Mayor

Department of Finance
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THE BID DATE EXTENDED TO : FRIDAY, APRIL 12, 2024 at 12:00 NOON.

Cc: Commissioner Tiffany White, Division of Purchases & Supplies

Attachments: Addendum #1 Cover Sheets – (Two) 2 Pages;
Revised Bid Forms – (Four) 4 Pages;
Revised Specifications – (Twenty-Three) 23 Pages;
Answers to Questions Submitted – (Four) 4 Pages;
Revised Drawings – (Eighteen) 18 Pages;
Pre-Bid Meeting Presentation – (Sixty-Seven) 67 Pages

Total: One Hundred Eighteen (118) Pages

BASE BID-RTA MEMBRANE REPLACEMENT						
ITEM NO.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**UNIT PRICE (FIGURES)**	**UNIT PRICE (WRITTEN)**	**EXTENSION (FIG-S)**
C100	CONTRACTOR QUALITY CONTROL PLAN	LS	1	$		
C102-5.1F	DANDY BAG CURB INLET PROTECTION	EA	15	$		
C105	MOBILIZATION	LS	1	$		
P101-5.6	COLD MILLING-4"	SY	1200	$		
P101-5.7	REMOVE SLOTTED DRAIN	LF	200	$		
P101-5.8	REMOVE 6" UNDERDRAINS	LF	360	$		
P101-5.8a	REMOVE 6" VIT FOOTER DRAINS	LF	360	$		
P101-5.9	CONCRETE WEARING SURFACE REMOVAL-4"	SY	700	$		
P101-5.10a	REPAIR OF STRUCTURAL SLAB, TYPE A	SY	60	$		
P101-5.10b	REPAIR OF STRUCTURAL SLAB, TYPE B	SY	60	$		

BASE BID-RTA MEMBRANE REPLACEMENT						
ITEM NO.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**UNIT PRICE (FIGURES)**	**UNIT PRICE (WRITTEN)**	**EXTENSION (FIG-S)**
P101-5.10c	REPAIR OF STRUCTURAL SLAB, TYPE C	SY	30	$		
D705-5.4	6" PIPE UNDERDRAIN, COMPLETE INCLUDING BACKFILL AND FILTER	LF	180	$		
D705-5.5	6" SOLID PIPE UNDERDRAIN, COMPLETE INCLUDING P-153 BACKFILL	LF	150	$		
D751-5.3	BOX INLETS	LF	200	$		
D751-5.4	INSPECTION HOLES	EA	3	$		
MC003-6.1	TEMPORARY CONSTRUCTION ITEMS	LS	1	$		
MC004-6.1	4" CONCRETE WEARING SLAB	SY	700	$		
MC005-5.1	TUNNEL WATERPROOFING SYSTEM REMOVAL	SY	1100	$		
MC005-5.2	TUNNEL WATERPROOFING SYSTEM INSTALLATION	SY	1100	$		
MC005-5.3	REMOVAL AND DISPOSAL OF CLASS II ASBESTOS, PER PLAN	SY	1100	$		

Company

Signature

Date

BASE BID-RTA MEMBRANE REPLACEMENT						
ITEM NO.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**UNIT PRICE (FIGURES)**	**UNIT PRICE (WRITTEN)**	**EXTENSION (FIG-S)**
MC006-5.1	10" CONCRETE WALK REMOVED AND RECONSTRUCTED	SY	180	$		
MC090-5.1	MECHANICAL ROOM WALL REPAIR	SF	40	$		
MC090-5.2	REMOVAL OF EXISTING ELECTRICAL SERVICE	LS	1	$		
MC091-5.1	SEWER CLEANING AND CCTV	LF	150	$		
MC091-5.2	FLOOR SLAB REMOVAL AND REPLACEMENT	SF	150	$		
L109-7.4	INSTALLATION OF EQUIPMENT IN EXISTING VAULT	EA	1	$		
407-1	TACK COAT	GAL	82	$		
407-2	TACK COAT FOR INTERMEDIATE COURSE	GAL	44	$		
446-1	1" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG-22	CY	12	$		
446-2	VARIES 1"-3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22	CY	36	$		

Company

Signature

Date

BASE BID-RTA MEMBRANE REPLACEMENT						
ITEM NO.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**UNIT PRICE (FIGURES)**	**UNIT PRICE (WRITTEN)**	**EXTENSION (FIG-S)**
516-1	3/4" PREFORMED EXPANSION JOINT FILLER	LF	200	$		
516-2	1/2" PREFORMED EXPANSION JOINT FILLER	LF	250	$		
516-3	1" PREFORMED EXPANSION JOINT FILLER	LF	200	$		
516-4	JOINT SEALER	LF	2000	$		
519	PATCHING CONCRETE STRUCTURE	SF	200	$		
642-2	LANE LINE, TYPE 2, 8"	LF	1000	$		
	TOTAL BASE BID			$		

CONTRACTOR NAME _____

ADDRESS _____

_____

_____

PHONE _____

AUTHORIZED REPRESENTATIVE (PRINTED) _____

AUTHORIZED REPRESENTATIVE (SIGNATURE) _____

_____
Company

_____
Signature

_____
Date

80-07.1 Contract time based on calendar days. Contract Time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the Notice to Proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

Schedule	Liquidated Damages Cost	Allowed Construction Time
Phase 1	$1000/Day	**90 Days**
Phase 2	$1000/Day	**60 Days**
Phase 3	$1000/Day	**1 Day**
Phase 4	$1000/Day	**1 Day**
Phase 5	$1000/Day	**150 Days**

A3

The maximum construction time allowed for Schedules 1-5 will be the sum of the time allowed for individual schedules but not more than **181** days. Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Owner of any of its rights under the contract.

80-09 Default and termination of contract. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or

b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or

c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

d. Discontinues the execution of the work, or

e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or

Item P-152 Excavation, Subgrade, and Embankment

A3

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate areas as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

152-1.2 Classification. All material excavated shall be classified as defined below:

a. Unclassified excavation. Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature which is not otherwise classified and paid for under one of the following items.

Drainage excavation. Drainage excavation shall consist of all excavation made for the primary purpose of drainage and includes drainage ditches, such as intercepting, inlet or outlet ditches; temporary levee construction; or any other type as shown on the plans.

152-1.3 Unsuitable excavation. Not used

CONSTRUCTION METHODS

152-2.1 General. Before beginning excavation, grading, and embankment operations in any area, the area shall be cleared or cleared and grubbed in accordance with Item P-151.

The suitability of material to be placed in embankments shall be subject to approval by the RPR. All unsuitable material shall be disposed of in waste areas as shown on the plans. All waste areas shall be graded to allow positive drainage of the area and adjacent areas. The surface elevation of waste areas shall be specified on the plans or approved by the RPR.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued and the RPR notified per Section 70, paragraph 70-20. At the direction of the RPR, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Areas outside the limits of the pavement areas where the top layer of soil has become compacted by hauling or other Contractor activities shall be scarified and disked to a depth of 4 inches (100 mm), to loosen and pulverize the soil. Stones or rock fragments larger than 4 inches (100 mm) in their greatest dimension will not be permitted in the top 6 inches (150 mm) of the subgrade.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the RPR, who shall arrange for their removal if necessary. The Contractor, at their own expense, shall satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

a. Blasting. Blasting shall not be allowed.

152-2.2 Excavation. No excavation shall be started until the work has been staked out by the Contractor and the RPR has obtained from the Contractor, the survey notes of the elevations and measurements of

the ground surface. The Contractor and RPR shall agree that the original ground lines shown on the original topographic mapping are accurate, or agree to any adjustments made to the original ground lines.

a. Selective grading. Not used

b. Undercutting. Not used

c. Over-break. Not used

d. Removal of utilities. The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished by the Contractor as indicated on the plans. All existing foundations shall be excavated at least 2 feet (60 cm) below the top of subgrade or as indicated on the plans, and the material disposed of as directed by the RPR. All foundations thus excavated shall be backfilled with suitable material and compacted as specified for embankment or as shown on the plans.

152-2.3 Borrow excavation. Not used

152-2.4 Drainage excavation. Drainage excavation shall consist of excavating drainage ditches including intercepting, inlet, or outlet ditches; or other types as shown on the plans. The work shall be performed in sequence with the other construction. Ditches shall be constructed prior to starting adjacent excavation operations. All satisfactory material shall be placed in embankment fills; unsuitable material shall be placed in designated waste areas or as directed by the RPR. All necessary work shall be performed true to final line, elevation, and cross-section. The Contractor shall maintain ditches constructed on the project to the required cross-section and shall keep them free of debris or obstructions until the project is accepted.

152-2.5 Preparation of cut areas or areas where existing pavement has been removed: . In those areas on which a subbase or base course is to be placed, the top 12 inches of subgrade shall be compacted to not less than 100 of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D698. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

152-2.6 Preparation of embankment area. All sod and vegetative matter shall be removed from the surface upon which the embankment is to be placed. The cleared surface shall be broken up by plowing or scarifying to a minimum depth of 6 inches (150 mm) and shall then be compacted per paragraph 152-2.10.

Sloped surfaces steeper than one (1) vertical to four (4) horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches (300 mm) and compacted as specified for the adjacent fill.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.7 Control Strip. The first half-day of construction of subgrade and/or embankment shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches (300 mm) upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods

for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

152-2.8 Formation of embankments. The material shall be constructed in lifts as established in the control strip, but not less than 6 inches (150 mm) nor more than 12 inches (300 mm) of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

The lifts shall be placed, to produce a soil structure as shown on the typical cross-section or as directed by the RPR. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Earthwork operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, freezing, or other unsatisfactory weather conditions in the field. Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. The Contractor shall drag, blade, or slope the embankment to provide surface drainage at all times.

The material in each lift shall be within ±2% of optimum moisture content before rolling to obtain the prescribed compaction. The material shall be moistened or aerated as necessary to achieve a uniform moisture content throughout the lift. Natural drying may be accelerated by blending in dry material or manipulation alone to increase the rate of evaporation.

The Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content to achieve the specified embankment density.

The contractor will take samples of excavated materials which will be used in embankment for testing and develop a Moisture-Density Relations of Soils Report (Proctor) in accordance with ASTM D698. A new Proctor shall be developed for each soil type based on visual classification.

Density tests will be taken by the contractor for every 3,000 square yards of compacted embankment for each lift which is required to be compacted, or other appropriate frequencies as determined by the RPR.

If the material has greater than 30% retained on the 3/4-inch (19.0 mm) sieve, follow AASHTO T-180 Annex Correction of maximum dry density and optimum moisture for oversized particles.

Rolling operations shall be continued until the embankment is compacted to not less than 100% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D698. Under all areas to be paved, the embankments shall be compacted to a depth of 5' and to a density of not less than 100 percent of the maximum density as determined by ASTM D698. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

On all areas outside of the pavement areas, no compaction will be required on the top 4 inches (100 mm) which shall be prepared for a seedbed in accordance with Item T-901 and T-906.

The in-place field density shall be determined in accordance with ASTM D1556. If the specified density is not attained, the area represented by the test or as designated by the RPR shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

Compaction areas shall be kept separate, and no lift shall be covered by another lift until the proper density is obtained.

During construction of the embankment, the Contractor shall route all construction equipment evenly over the entire width of the embankment as each lift is placed. Lift placement shall begin in the deepest portion of the embankment fill. As placement progresses, the lifts shall be constructed approximately parallel to the finished pavement grade line.

When rock, concrete pavement, asphalt pavement, and other embankment material are excavated at approximately the same time as the subgrade, the material shall be incorporated into the outer portion of the embankment and the subgrade material shall be incorporated under the future paved areas. Stones, fragmentary rock, and recycled pavement larger than 4 inches (100 mm) in their greatest dimensions will not be allowed in the top 12 inches (300 mm) of the subgrade. Rockfill shall be brought up in lifts as specified or as directed by the RPR and the finer material shall be used to fill the voids forming a dense, compact mass. Rock, cement concrete pavement, asphalt pavement, and other embankment material shall not be disposed of except at places and in the manner designated on the plans or by the RPR.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in lifts of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in lifts not exceeding 2 feet (60 cm) in thickness. Each lift shall be leveled and smoothed with suitable equipment by distribution of spalls and finer fragments of rock. The lift shall not be constructed above an elevation 4 feet (1.2 m) below the finished subgrade.

There will be no separate measurement of payment for compacted embankment. All costs incidental to placing in lifts, compacting, discing, watering, mixing, sloping, and other operations necessary for construction of embankments will be included in the contract price for excavation, borrow, or other items.

152-2.9 Proof rolling. The purpose of proof rolling the subgrade is to identify any weak areas in the subgrade and not for compaction of the subgrade. After compaction is completed, the subgrade area shall be proof rolled with a 20 ton (18.1 metric ton) Tandem axle Dual Wheel Dump Truck loaded to the legal limit with tires inflated to 80/100/150 psi (0.551 MPa/0.689 MPa/1.034 MPa)in the presence of the RPR. Apply a minimum of 4' coverage, or as specified by the RPR, under pavement areas. A coverage is defined as the application of one tire print over the designated area. Soft areas of subgrade that deflect more than 1 inch (25 mm) or show permanent deformation greater than 1 inch (25 mm) shall be removed and replaced with suitable material or reworked to conform to the moisture content and compaction requirements in accordance with these specifications. Removal and replacement of soft areas is incidental to this item.

152-2.10 Compaction requirements. The subgrade under areas to be paved shall be compacted to a depth of 12 inches (300 mm) and to a density of not less than 100 percent of the maximum dry density as determined by ASTM D698. The material to be compacted shall be within ±2% of optimum moisture content before being rolled to obtain the prescribed compaction (except for expansive soils). When the material has greater than 30 percent retained on the ¾ inch (19.0 mm) sieve, follow the methods in ASTM D698.Tests for moisture content and compaction will be taken at a minimum of 3000 S.Y. of subgrade. All quality assurance testing shall be done by the Contractor's laboratory in the presence of the RPR, and density test results shall be furnished upon completion to the RPR for acceptance determination.

The in-place field density shall be determined in accordance with ASTM D1556.Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

If the specified density is not attained, the entire lot shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

All cut-and-fill slopes shall be uniformly dressed to the slope, cross-section, and alignment shown on the plans or as directed by the RPR and the finished subgrade shall be maintained.

152-2.11 Finishing and protection of subgrade. Finishing and protection of the subgrade is incidental to this item. Grading and compacting of the subgrade shall be performed so that it will drain readily. All low areas, holes or depressions in the subgrade shall be brought to grade. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans. All ruts or rough places that develop in the completed subgrade shall be graded, re-compacted, and retested. The Contractor shall protect the subgrade from damage and limit hauling over the finished subgrade to only traffic essential for construction purposes.

The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been accepted by the RPR.

152-2.12 Haul. All hauling will be considered a necessary and incidental part of the work. The Contractor shall include the cost in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

The Contractor's equipment shall not cause damage to any excavated surface, compacted lift or to the subgrade as a result of hauling operations. Any damage caused as a result of the Contractor's hauling operations shall be repaired at the Contractor's expense.

The Contractor shall be responsible for providing, maintaining and removing any haul roads or routes within or outside of the work area, and shall return the affected areas to their former condition, unless otherwise authorized in writing by the Owner. No separate payment will be made for any work or materials associated with providing, maintaining and removing haul roads or routes.

152-2.13 Surface Tolerances. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches (75 mm), reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

a. **Smoothness.** The finished surface shall not vary more than +/- ½ inch (12 mm) when tested with a 12-foot (3.7-m) straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot (3.7-m) straightedge for the full length of each line on a 50-foot (15-m) grid.

b. **Grade.** The grade and crown shall be measured on a 50-foot (15-m) grid and shall be within +/- 0.05 feet (15 mm) of the specified grade.

On safety areas, turfed areas and other designated areas within the grading limits where no subbase or base is to placed, grade shall not vary more than 0.10 feet (30 mm) from specified grade. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.14 Topsoil. When topsoil is specified or required as shown on the plans or under Item T-905, it shall be salvaged from stripping or other grading operations. The topsoil shall meet the requirements of Item T-905. If, at the time of excavation or stripping, the topsoil cannot be placed in its final section of finished construction, the material shall be stockpiled at approved locations. Stockpiles shall be located as

shown on the plans and the approved CSPP, and shall not be placed on areas that subsequently will require any excavation or embankment fill. If, in the judgment of the RPR, it is practical to place the salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further re-handling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as shown on the plans and as required in Item T-905. Topsoil shall be paid for as provided in Item T-905. No direct payment will be made for topsoil under Item P-152.

METHOD OF MEASUREMENT

No separate measurement for payment shall be made P-152 Excavation and Embankment. P-152 Excavation and Embankment shall be considered necessary and incidental to the work of this Contract.

BASIS OF PAYMENT

No payment will be made separately or directly for P-152 Excavation and Embankment P-152 Excavation and Embankment shall be considered necessary and incidental to the work of this Contract.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO T-180	Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop

ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2700 kN-m/m^3))
ASTM D6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

Advisory Circulars (AC)

AC 150/5370-2	Operational Safety on Airports During Construction Software

Software

FAARFIELD – FAA Rigid and Flexible Iterative Elastic Layered Design

U.S. Department of Transportation

FAA RD-76-66	Design and Construction of Airport Pavements on Expansive Soils

END OF ITEM P-152

Item P-153 Controlled Low-Strength Material (CLSM)

A3

DESCRIPTION

153-1.1 This item shall consist of furnishing, transporting, and placing a controlled low-strength material (CLSM) as flowable backfill in trenches or at other locations shown on the plans or as directed by the Resident Project Representative (RPR).

MATERIALS

153-2.1 Materials.

a. Cement. Cement shall conform to the requirements of ASTM C150 Type I or II.

b. Fly ash. Fly ash shall conform to ASTM C618, Class C or F.

c. Fine aggregate (sand). Fine aggregate shall conform to the requirements of ASTM C33 except for aggregate gradation. Any aggregate gradation which produces the specified performance characteristics of the CLSM and meets the following requirements, will be accepted.

Sieve Size	Percent Passing by weight
3/4 inch (19.0 mm)	100
No. 200 (75 μm)	0 - 12

d. Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

MIX DESIGN

153-3.1 Proportions. The Contractor shall submit, to the RPR, a mix design including the proportions and source of aggregate, fly ash, cement, water, and approved admixtures. No CLSM mixture shall be produced for payment until the RPR has given written approval of the proportions. The proportions shall be prepared by a laboratory and shall remain in effect for the duration of the project. The proportions shall establish a single percentage or weight for aggregate, fly ash, cement, water, and any admixtures proposed. Laboratory costs are incidental to this item.

a. Compressive strength. CLSM shall be designed to achieve a 28-day compressive strength of 100 to 200 psi (690 to 1379 kPa) when tested in accordance with ASTM D4832, with no significant strength gain after 28 days.

b. Consistency. Design CLSM to achieve a consistency that will produce an approximate 8-inch (200 mm) diameter circular-type spread without segregation. CLSM consistency shall be determined per ASTM D6103.

CONSTRUCTION METHODS

153-4.1 Placement.

a. Placement. CLSM may be placed by any reasonable means from the mixing unit into the space to be filled. Agitation is required during transportation and waiting time. Placement shall be performed so structures or pipes are not displaced from their final position and intrusion of CLSM into unwanted areas is avoided. The material shall be brought up uniformly to the fill line shown on the plans or as directed by the RPR. Each placement of CLSM shall be as continuous an operation as possible. If CLSM is placed in more than one lift, the base lift shall be free of surface water and loose foreign material prior to placement of the next lift.

b. Contractor Quality Control. The Contractor shall collect all batch tickets to verify the CLSM delivered to the project conforms to the mix design. The Contractor shall verify daily that the CLSM is consistent with 153-3.1a and 153-3.1b. Adjustments shall be made as necessary to the proportions and materials as needed. The Contractor shall provide all batch tickets to the RPR.

c. Limitations of placement. CLSM shall not be placed on frozen ground. Mixing and placing may begin when the air or ground temperature is at least 35°F (2°C) and rising. Mixing and placement shall stop when the air temperature is 40°F (4°C) and falling or when the anticipated air or ground temperature will be 35°F (2°C) or less in the 24-hour period following proposed placement. At the time of placement, CLSM shall have a temperature of at least 40°F (4°C).

153-4.2 Curing and protection

a. Curing. The air in contact with the CLSM shall be maintained at temperatures above freezing for a minimum of 72 hours. If the CLSM is subjected to temperatures below 32°F (0°C), the material may be rejected by the RPR if damage to the material is observed.

b. Protection. The CLSM shall not be subject to loads and shall remain undisturbed by construction activities for a period of 48 hours or until a compressive strength of 15 psi (105 kPa) is obtained. The Contractor shall be responsible for providing evidence to the RPR that the material has reached the desired strength. Acceptable evidence shall be based upon compressive tests made in accordance with paragraph 153-3.1a.

153-4.3 Quality Assurance (QA) Acceptance. CLSM QA acceptance shall be based upon batch tickets provided by the Contractor to the RPR to confirm that the delivered material conforms to the mix design.

METHOD OF MEASUREMENT

153-5.1 Measurement.

No separate measurement for payment shall be made for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

BASIS OF PAYMENT

No payment will be made separately or directly for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C33	Standard Specification for Concrete Aggregates

ASTM C150	Standard Specification for Portland Cement
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D4832	Standard Test Method for Preparation and Testing of Controlled Low-Strength Material (CLSM) Test Cylinders
ASTM D6103	Flow Consistency of Controlled Low Strength Material (CLSM)

Item P-610 Concrete for Miscellaneous Structures

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

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MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within six months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion either or both test specimen is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix.

If the expansion is greater than 0.20%, the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation; or aggregates that meet P-501 reactivity test requirements may be utilized.

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

610-3.14 Hot weather placing. When concrete is placed in hot weather greater than 85°F (30 °C), follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE (QA)

610-4.1 Quality Assurance sampling and testing. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 Defective work. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be considered incidental and no separate measurement shall be made.

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BASIS OF PAYMENT

610-6.1 Payment shall be made at the contract price concrete shall be considered incidental and no separate payment shall be made. This price shall be full compensation for furnishing all materials including reinforcement and embedded items and for all preparation, delivery, installation, and curing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-610-6.1	Concrete, incidental to other work items

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars

705-5.2 Porous backfill. Not used

705-5.3. Filter fabric. Not used

705-5.4 Pipe underdrains, Complete. Pipe underdrains, complete (including porous backfill and filter fabric) shall be made at the contract unit price per linear foot (meter) complete (including porous backfill and filter fabric.

These prices shall be full compensation for furnishing all materials and for all preparation, excavation, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item D-705-5.1	Not used
Item D-705-5.3	Not used
Item D-705-5.4	6 inch, perforated pipe underdrain per linear foot complete, including porous backfill and filter fabric
Item D-705-5.5	6 inch, solid pipe underdrains per linear foot, complete including P-153 Backfill.

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REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
ASTM A762	Standard Specification for Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C444	Standard Specification for Perforated Concrete Pipe
ASTM C654	Standard Specification for Porous Concrete Pipe
ASTM D2321	Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
ASTM D3262	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Sewer Pipe
ASTM D4161	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Pipe Joints Using Flexible Elastomeric Seals
ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe

003-2.5 Maintenance of Pedestrian Traffic through the RTA Connector Collector. This Item includes all required overhead protections as indicated on the project drawings and within these specifications.

003-2.6 Portable Barrier with Fence. The barrier shall meet the material requirements for ODOT Item 622.02, Fence materials shall meet the requirements of ODOT 710.11 and ODOT 710.13.

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CONSTRUCTION METHODS

003-3.1 Construction drums. Construction drums shall be placed as indicated on the Phasing Plan and/or as directed by the Resident Project Representative. Drums shall remain in place for the time periods shown on the plans. The construction drums shall be property of the contractor and shall be removed from the site following project completion.

003-3.2 Flagpersons. Flagpersons shall be provided, as necessary, to control the Contractor's traffic during the prosecution of work.

003-3.4 Work scheduling and accomplishment. Prior to working on or near any operational Terminal area, Contractor shall notify the Resident Project Representative who will request closures as required from Airport Operations so that provisions can be made to close the Lower Roadway to traffic. Such work shall then be prosecuted in the most expeditious manner practicable so that the Lower Roadway can be reopened to traffic at the earliest possible time. Contractor shall reference Phasing Plans for additional information. The contractor-designated representative shall contact the Resident Project Representative each day before beginning work to coordinate the status and nature of work to be performed. Contractor-designated representative shall report to the Resident Project Representative at the end of each day to schedule the work planned for the following day.

003-3.5 Vehicle marking and identification. All vehicles larger than a pickup truck operating on the site and all Contractor escort vehicles shall be marked with orange and white checkered flags, each checkerboard color being one (1) foot square. Flags shall be three (3) feet square and shall be tacked along a staff having a length of four (4) feet and a minimum thickness of one (1) inch. A revolving yellow (amber) light (FAA Approved) mounted on top of the vehicle may be used in lieu of a checkerboard flag. The revolving yellow (amber) light (FAA Approved) is required for vehicles operating on the airfield at night. Vehicles shall include identification lettering as required by the Airport Security Office (ASO).

003-3.6 Vehicle parking. No contractor on-site vehicular parking will be available. Prior to parking construction vehicles for this project, the contractor shall submit a plan indicating the areas where parking is desired for review and approval by Airport Operations. During non-working hours, construction equipment may remain inside the construction site perimeter, outside of taxiway object free areas and runway object free areas as shown on the safety and phasing Plans.

003-3.8 Marking removal and replacement. Where indicated on the phasing plans, roadway markings shall be removed for the duration of the phase, and reinstalled at the completion of the phase. Markings shall be removed as specified in ODOT Item 614 and reinstalled as indicated in ODOT Item 642. Payment for the removal and replacement of the roadway markings shall be included as part of pay item MC-003-6.1.

SAFETY REQUIREMENTS

003-4.1 General. Emergencies and operating conditions may necessitate sudden changes, both in Airport operations and in the operations of the Contractor. Aircraft operations shall always have priority over any and all of the Contractor's operations. Through the duration of the job any practice or situations that Airport Operations or the Resident Project Representative determines to be unsafe or a hindrance to regular Airport operations shall be immediately rectified. Any violation of these or the following safety

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Item MC-005: Tunnel Waterproofing System

DESCRIPTION

005-1.1 This work consists of the removal of the existing waterproofing system on the RTA Tunnel walls and top slab and the installation of a waterproofing system as shown in the plans and as described in these specifications. Repairs (e.g. surface scaling and/or partial depth) to the structural slab shall be paid for under separate items and be accomplished prior to waterproofing surface preparation. Waterproofing surface preparation shall be as per P-101 unless otherwise recommended by the manufacturer's written instructions.

MATERIALS

005-2.1 The waterproofing system shall be a fabric reinforced, monolithic membrane, Type 6125 (215 mils). All system components shall be obtained from a single source manufacturer to ensure compatibility and integrity of the system.

005-2.2 The waterproofing system will be composed of the following layers:

1. Surface Conditioner.
2. Hot, fluid applied, rubberized asphalt monolithic waterproofing membrane:
3. Polyester fabric membrane reinforcing:
4. Fiberglass reinforced rubberized asphalt protective board:

005-2.3 The waterproofing system shall be installed as shown in the plans and in accordance with the manufacturer's written instructions and recommendations.

005-2.4 This item will include all surface preparation, material, equipment and labor required for the installation of the waterproofing system complete and in place.

METHOD OF MEASUREMENT

005-4.1 The Waterproofing System removal shall be measured by square yards on the basis of the actual surface area removed, installed, and accepted.

005-4.2 The Waterproofing System installation shall be measured by square yards on the basis of the actual surface area removed, installed, and accepted.

005-4.2 The removal of Class II Asbestos containing materials shall be measured by square yards on the basis of the actual surface area removed. Costs shall include disposal per all Local, State, and Federal Requirements.

BASIS OF PAYMENT

005-5.1 Payment will be made under:

halt operations and repair damage without compensation to the satisfaction of the Resident Project Representative and Airport Engineer.

090-3.3 The method used shall not materially damage the structural integrity of the walls to remain. Any damage caused by the Contractor's operations shall be corrected at the Contractor's expense and in a manner approved by the Airport Engineer. The Contractor shall take precautions to prevent any damage to equipment or facilities from any damage due to his operations. Accumulation of all debris resulting from the removal operation shall become the property of the Contractor and be removed as the work progresses and legally disposed of off Airport property.

090-3.5 The Contractor shall vacuum and/or remove all debris created by the operations during the operation and at the end of each shift.

METHOD OF MEASUREMENT

090-4.1 Structural Wall Repair shall be measured by square foot. This price shall include all associated pavement removal, excavation, backfill, and pavement replacement as indicated on the plans and according to the specifications.

BASIS OF PAYMENT

Payments will be made under:

Item MC-090-5.1	Structural Wall Repair – per square foot
Item MC-090-5.2	Removal of Existing Electrical Service-Lump Sum

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TESTING REQUIREMENTS

See specific specification sections.

END OF ITEM MC-090

Item MC-091 Sewer Cleaning and CCTV

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DESCRIPTION

MC-091-1.0 GENERAL: The designated sanitary sewers shall be cleaned of root intrusion, sedimentation, and foreign materials, by the Contractor using hydraulically propelled, high velocity jet, or mechanically powered equipment. The use of chemical root treatments or grease solvents by the Contractor shall not be permitted. Selection of the equipment used shall be at the option of the Contractor and shall be based on the condition of the pipe at the time work commences. The equipment and methods selected shall be approved by the Resident Project Representative (RPR).

The equipment used by the Contractor shall be capable of removing roots, dirt, grease, rocks, sand, other materials, and obstructions from the sewer pipe and manholes. The Contractor shall effectively clean each sanitary sewer for the purpose intended or shall restore sewers to minimum of 95% of the internal pipe diameter. The Contractor shall also clean manhole walls, benches, and inverts of all such debris, as directed.

MC-091-2.0 HIGH-VELOCITY JET CLEANING: High velocity jet cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a selection of high velocity nozzles as may be necessary to produce a scouring action from 15 to 45 degrees in all size pipes designated to be cleaned. The equipment shall also include a high-velocity gun for washing and scouring manhole walls and floors. The gun shall be capable of producing flows from a fine spray to a solid stream of sufficient velocity for its intended purpose. The equipment shall carry its own water tank, auxiliary engines, pumps and hydraulically driven hose reel.

MC-091-2.1 OBSTRUCTIONS: Should the Contractor be unsuccessful in the cleaning of an entire sewer reach from one direction, the equipment shall then be reset from the opposite manhole and the cleaning again shall be attempted. If, on this second attempt from the opposite direction, successful cleaning cannot be performed or the equipment fails to traverse the entire sewer reach, it will be assumed that a major blockage exists, and the cleaning effort for that reach shall be abandoned until such time as the sewer reach can be inspected by television.

Should television inspection indicate a condition such as a collapsed pipe, or other major blockage that would prevent cleaning from being accomplished without additional damage, the Contractor will not be required to clean that specific reach to the degree specified. Notification to the District contact person shall be made immediately after discovery of such blockage. Should the television inspection indicate an obstruction that may be removed by cleaning, the Contractor shall again attempt the cleaning of that segment of line so that the television inspection of the entire manhole reach can be completed.

MC-091-2.2 DAMAGES TO SEWER LINE DURING NORMAL OPERATIONS: If in the course of normal cleaning operations performed by the Contractor by a method that is satisfactory to the Resident Project Representative and while using due care, damage results to the sewer pipe from pre-existing and unforeseen conditions, the Contractor shall not be held responsible, but shall notify the RPR personnel immediately.

MC-091-2.3 PRECAUTIONS: The Contractor shall utilize all necessary precautions in the use of cleaning equipment or tools which retard flow in the sewer lines to insure that the water pressure created does not damage or flood areas being serviced by the sewer.

MC-091-2.4 REMOVAL OF MATERIAL: All sludge, dirt, sand, rocks, grease and other material resulting from the cleaning operation shall be removed at the downstream manhole of each section to be cleaned. Passing of material from sewer section to sewer section shall not be permitted.

All materials removed from the sewer shall be disposed of by the Contractor on a daily basis in a manner that is satisfactory to The Department of Port Control Environmental Division.

Failure to properly remove the material from the sewer section will not be tolerated.

MC-090-3.0 SEWER FLOW CONTROL

MC-091-3.1 GENERAL: Should the depth of flow within a sanitary sewer outfall, main, or service lateral, exceed 20% of the pipe diameter for the work being contemplated, or should the flow otherwise prevent the proper execution of work in progress, the Contractor shall reduce the flow prior to proceeding, by plugging, blocking, or bypassing the flow as may be necessary.

MC-091-3.2 PLUGGING AND BLOCKING: The Contractor may control the sewer flow by plugging or blocking the flow upstream of the sewer reach being worked. The plug shall be so designed that all or any portion of the flow can be released. The plug shall at all times be secured in such a manner that will prevent the plug from entry into the outlet pipe of the manhole being used. Mechanical plugs requiring manned entry into the manhole to release the flow shall not be permitted. It will be the Contractor's responsibility to monitor the flow upstream from the plug and ensure no over flows occur.

MC-091-3.3 BY-PASS PUMPING: Should flow bypassing be required, the Contractor shall provide the pumps, conduits, and other equipment as may be necessary to divert the flow of sewage around the sewer reach in which work is to be performed. The bypass system shall be of sufficient capacity to manage the flow rates encountered throughout the bypassing operation. The Contractor shall have, on site, sufficient back-up equipment, hoses, and power supply, equal to or better than the primary equipment, to immediately replace pumping equipment, in the event of a failure.

MC-091-3.4 EQUIPMENT BLOCKAGES: Should at any time cleaning or television equipment or flow control devices become lodged within the sewer the Contractor shall take immediate steps to set a flow bypass system to divert the flow of sewage around the problem area, and the Contractor shall immediately inform the RPR of the problem and make immediate plans and take action to remedy the situation at the Contractor's expense.

MC-091-3.5 PRECAUTIONS: The Contractor shall take sufficient precautions to protect the sewer lines from damage that may result from sewer surcharging, and to insure that sewer flow control operations do not cause flooding or damage to the sewer lines involved. At such times as the flow in a sewer is plugged, blocked, bypassed or unintentionally obstructed by lodged equipment or devices, the Contractor shall immediately restore the sewer to operating condition. The restoration shall be at the Contractor's expense and will restore the sewer to a condition similar or equal to that which existed before such damages were committed, by cleaning, repairing, rebuilding, or replacing, as may be required by the RPR.

MC-091-4.0 TELEVISION INSPECTION

MC-091-4.1 GENERAL: The Contractor, upon completion of the successful cleaning, shall visually inspect and record the conditions of all sanitary sewers as herein by means of closed circuit television (CCTV).

MC-091-4.2 EQUIPMENT: The Contractor shall be capable of television inspection through a single port of access to the pipe line by means of a "tractor-camera", or "push-pull" type video cable. The television equipment utilized by the Contractor for inspection shall be specifically designed and constructed for such inspections.

Lighting for the camera shall be suitable to allow a clear and properly contrasted picture of the entire periphery of the pipes to be inspected. The camera, television monitor, and other components of the video system shall be capable of producing a clear, high quality unobstructed picture for the entire length of the reach, from manhole to manhole including the connections on either end, to the satisfaction of the RPR.

The camera shall be moved through the sewer in either direction at a moderate rate, stopping when necessary to permit proper documentation of the sewer's structure and condition. Manual winches, power winches, TV cable and power rewinds or other devices that do not obstruct the camera view or interfere with the proper documentation of the sewer inspection may be used to move the camera through the sewer. In no case, shall the camera progress at a rate greater than 30 feet per minute.

MC-091-4.3 DEPTH OF FLOW AND SAGS IN SEWER MAIN: Should the depth of flow exceed 30% of the pipe diameter at any time during the inspection of a sewer line, the Contractor shall reduce the flow to a depth within the maximum level by plugging, blocking, or bypassing the flow as herein specified. Where sags in reaches create standing water, the cleaning operation shall remove enough water such that the entire pipe is visible for inspection.

MC-091-4.4 BLOCKAGES: Should the Contractor be unsuccessful in the television inspection of an entire sewer from one direction, the equipment shall then be reset from the opposite connection and television inspection shall again be attempted. Should the television inspection indicate an obstruction that may be removed by cleaning, the Contractor shall again attempt the cleaning of that segment of line so that television inspection of the entire sewer reach can be completed. If unable to complete inspection due to a blockage or without causing more damage to the segment, the Contractor shall contact the RPR immediately to notify them of the damage.

MC-091-4.5 FINAL DELIVERABLE INFORMATION / GIS: A NASSCO compliant PACP database shall be submitted following the project and will serve as the project deliverable. GIS edits shall be communicated to District staff so that GIS can be properly updated prior to the contractor's inspection to reflect the proper location and connectivity of all pipes and manholes. Newly found manholes shall be reflected in the database and shown in the proper location. The Contractor must use the same manhole and PW_ID identification numbers as the District's GIS system for the database to properly sync the PACP information. The database will not be accepted otherwise.

MC-091-4.6 6" REINFORCED SLAB REMOVAL AND REPLACEMENT: This item shall be used at the discretion of the Airport Engineer if the Cleaning and CCTV item identifies areas of trunk line replacement.

METHOD OF MEASUREMENT

MC-091-5.0 METHOD OF MEASUREMENT

MC-091-5.1: The length of pipe cleaned and CCTV shall be the number of linear feet as measured by the Contractor following the CCTV effort.

MC-091-5.2: The 6" reinforced concrete slab to be removed and replaced in the RTA Connector/Collector and Mechanical Room will be measured by the square foot.

BASIS OF PAYMENT

Payments will be made under:

Item MC-091-5.1	Sewer Cleaning and CCTV – per linear foot
Item MC-091-5.2	Floor Slab Removal and Replacement – per square foot.

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ODOT Item 255 Full Depth Pavement Removal and Rigid Replacement

DESCRIPTION

255 1.1 This item shall consist of furnishing all labor, materials, and equipment required for the removal and replacement of pavement associated with the replacement of the tunnel footer drains with Item D705 Pipe Underdrains.

MATERIALS

255-2.1 Materials shall meet the requirements set forth in the latest edition of the State of Ohio Department of Transportation Construction and Material Specifications.

CONSTRUCTION METHODS

255-3.1 Construction methods shall meet the requirements set forth in the latest edition of the State of Ohio Department of Transportation Construction and Material Specifications.

METHOD OF MEASUREMENT

This item is considered incidental to D-705 Pipe Underdrains.

BASIS OF PAYMENT

Payments will be made under:

There will be no separate payment for this item. This item is incidental to Item D705 Pipe Underdrains.

TESTING REQUIREMENTS

Testing shall meet the requirements set forth in the latest edition of the State of Ohio Department of Transportation Construction and Material Specifications.

MATERIAL REQUIREMENTS

Materials shall meet the requirements set forth in the latest edition of the State of Ohio Department of Transportation Construction and Material Specifications.

END OF ODOT ITEM 255

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ODOT Item 519 Patching Concrete Structures

DESCRIPTION

519 1.1 This item shall consist of furnishing all labor, materials, and equipment required for the placement of flexible pavement as indicated on the plans.

MATERIALS

519-2.1 Materials shall meet the requirements set forth in the latest edition of the State of Ohio Department of Transportation Construction and Material Specifications.

CONSTRUCTION METHODS

519-3.1 Construction methods shall meet the requirements set forth in the latest edition of the State of Ohio Department of Transportation Construction and Material Specifications.

METHOD OF MEASUREMENT

Patching Concrete Structures will be measured by the number of square feet (square meters) of the exposed surfaces of all completed patches, irrespective of the depth or thickness of the patch.

BASIS OF PAYMENT

Payments will be made under:

Item	Unit	Description
ODOT 519	Square Foot	Patching Concrete Structure

TESTING REQUIREMENTS

Testing shall meet the requirements set forth in the latest edition of the State of Ohio Department of Transportation Construction and Material Specifications.

MATERIAL REQUIREMENTS

Materials shall meet the requirements set forth in the latest edition of the State of Ohio Department of Transportation Construction and Material Specifications.

END OF ODOT ITEM 519

ODOT Item 642 Traffic Paint

DESCRIPTION

516-1.1 This item shall consist of furnishing all labor, materials, and equipment required for the placement of expansion and contraction joints and sealers as indicated on the plans.

MATERIALS

516-2.1 Materials shall meet the requirements set forth in the latest edition of the State of Ohio Department of Transportation Construction and Material Specifications.

CONSTRUCTION METHODS

516-3.1 Construction methods shall meet the requirements set forth in the latest edition of the State of Ohio Department of Transportation Construction and Material Specifications.

METHOD OF MEASUREMENT

ODOT 642-1, Lane Line Type 2 shall be measured by the linear foot.

BASIS OF PAYMENT

Payments will be made under:

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ODOT 642-2, Lane Line Type 2, 8"Wide– per linear foot.

TESTING REQUIREMENTS

Testing shall meet the requirements set forth in the latest edition of the State of Ohio Department of Transportation Construction and Material Specifications.

MATERIAL REQUIREMENTS

Materials shall meet the requirements set forth in the latest edition of the State of Ohio Department of Transportation Construction and Material Specifications.

END OF ODOT ITEM 642

Addendum #3 – File No. 19-24 RTA Tunnel Membrane Replacement

2/26/2024 Prebid Questions:

Can existing drawings be made available for the work areas that work will be performed at under this contract?

Answer: Existing Drawings will be made available to the successful bidder.

Can the pre-bid meeting minutes and the pre-bid power point presentation be provided with an addendum?

Answer: Please see the attached minutes and presentation.

Question: The Maintenance Of Traffic plans for Phases 1 thru 4 show the use of drums at 10' C/C, to provide a 2'-0" buffer between the work zone and travel lanes. The work zone areas will have a drop off adjacent to the travel lanes. Should the maintenance of traffic plans be revised to include barrier protection for the work areas?

Answer: Please see the revised MOT Drawings.

Question: Will any of the Phases of construction require chain link fencing to separate the work areas from the Terminal? If so, please specify the locations.

Answer: Please see revised MOT Drawings.

Question: Plan Sheet C-20 provides cross sections "parallel to the roadway" to excavate for the replacement of the footer drain, but does not provide dimensions and/or elevations from the top of pavement to the top of the existing footers. Also, there are no cross section views of the excavation transverse to the roadway to show how this work will be performed in Phases 1 thru 3. Please have the Engineer of Record specify how the excavation for footer drain replacement can be performed adjacent to the existing travel lanes that are to be maintained, that are separated by only 2'-0" from the work areas?

Answer: Please see revised Maintenance of Traffic Drawings. There will be approximately 10' of the road that will be closed in bot Phase 1 and Phase 2. It is anticipated that the required shoring/bracing will be installed in the 10' +/- buffer.

Question: Plan Sheet C-6 states to install foam flashing Per Sheet "XX". There is no plan sheet "XX" included in the plans. Please clarify.

Answer: The foam flashing detail has been removed. Please see Sheet C-19 for flashing details.

Question: Plan Sheet C-17, Foam Flashing Detail, states to provide "premolded joint material". Please provide specified type and size to be installed.

Answer: The foam flashing detail has been removed. Please see Sheet C-19 for flashing details.

Question: Plan Sheet C-19, Section A-A, details Both "Item 255- Rigid Replacement, Class FS" and "proposed asphalt overlay, varies 2"-4" for the proposed pavement. Please clarify.

Answer: ODOT Item 255 is used to replace the existing 10" concrete pavement to be removed and replaced to install the footer drains for the tunnel. The existing section outside of the tunnel limits utilizes an asphalt concrete overlay which varies from 4: to 2" in thickness. Please see sheets C-5, C-6, and C-8 for details.

Question: Please specify the existing waterproofing system that is to be removed from the tunnel lid and walls.

Answer: Please see the revised Project drawings and specification section MC-007 relating to the existing waterproofing membrane and sections.

Question: Work Item Number P101-5.10 includes repair of structural slab type A, B or C. Please separate type A, B or C into separate work items, as each work type requires a different level of effort.

Answer: The Pay Items have been separated.

Question: Proposed Typical Section on Plan Sheet C-6 details 10" concrete walk removed and reconstructed from Station 17+06.91 to Station 17+58.41 = 51.50 LF. However Plan Sheet C-7 shows begin sidewalk replacement at STA 16+72.65 and ending at STA 17+89.24. Please clarify.

Answer: Please see revised drawings.

Addendum #3 – File No. 19-24 RTA Tunnel Membrane Replacement

2/27/2024 Prebid Questions:

Question: Has any subsurface investigations been performed, or are there any records on file of previous subsurface investigations that have been performed that can be provided?

Answer. Subsurface testing was not performed for this project. There are no records of subsurface investigations available.

2/28/2024 Prebid Questions:

Question: Specification D-751 does not provide information for the standard to follow in selecting the box inlet. Please provide.

Answer: Please see revised drawings.

Question: Specification D-751 does not state whether the grate for the box inlet needs to provide heal proof protection. Please clarify.

Answer: Please see the revised drawings. Grates must be ADA compliant.

Question: Neither the contract drawings nor Specification D-751 provides any information or standards on inspection holes, nor where they are to be installed. As Item Number D751-5.4 has a quantity of 4 EA inspection holes, more information is needed to clarify this work item. Please provide.

Answer: The Inspection Hole Item will be used on the RTA Connector/Collector level if required. Please see the revised drawings.

Addendum #3 – File No. 19-24 RTA Tunnel Membrane Replacement

2/28/2024 Prebid Questions:

Question: Per Specifications Item D-705 Pipe Underdrains for Airports, it states "the quantity of pipe underdrains shall be made at the contract unit price per linear foot (meter) complete, including porous backfill and filter fabric". However, Plan sheet C-20 states "excavation is incidental to D705 6" pipe under drains" and "embankment is incidental to D705 6" Pipe Under Drains". Per Specifications D-705 Pipe Underdrains for the Airports, neither excavation nor embankment should be included with the work item. Please provide work items and quantities for both excavation and proposed backfill.

Answer: Specification Section D705-5.4 includes language relating to excavation for pipe underdrains.

Question: Please provide engineered calcs for Item Number P152-4.1.

Answer: Item P152-4.1 has been deleted. Please see reissued Specification.

2/29/2024 Prebid Questions:

Question: Can the City provide electronic bid documents for the RTA Tunnel Membrane Replacement Project?

Answer: The city does not provide electronic bid documents, but a hard copy of the bid documents is able at the Purchases & Supplies office, in City Hall, for a fee of $50.00.

Addendum #3 – File No. 19-24 RTA Tunnel Membrane Replacement

SHEET INDEX

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C-8	PROPOSED ASPHALT OVERLAY ELEVATIONS
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C-17	TUNNEL REPAIR – WATERPROOFING DETAILS
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C-21	STORMWATER POLLUTION PREVENTION NOTES 1
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C-23	STORMWATER POLLUTION PREVENTION DETAILS
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C-25	STRUCTURAL WALL REPAIR 1
C-26	CONNECTOR-COLLECTOR MECHANICAL ROOM EXISTING SERVICE PANELS
C-27	PLUMBING MODIFICATIONS

A-3

A-3

SUMMARY OF QUANTITIES

BASE BID

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	AS-BUILT QUANTITY
C100	CONTRACTOR QUALITY CONTROL PROGRAM	LS	1	
C102-5.1F	DANDY BAG CURB INLET PROTECTION	LF	15	
C105	MOBILIZATION	LS	1	
P101-5.6	COLD MILLING – 4"	SY	1200	
P101-5.7	REMOVE SLOTTED DRAIN	LF	200	
P101-5.8	REMOVE 6" UNDERDRAINS	LF	360	
P101-5.8a	REMOVE 6" VIT FOOTER DRAINS	LF	360	
P101-5.9	CONCRETE WEARING SURFACE REMOVAL – 4"	SY	700	
P101-5.10a	REPAIR OF STRUCTURAL SLAB TYPE A	SY	60	
P101-5.10b	REPAIR OF STRUCTURAL SLAB TYPE B	SY	60	
P101-5.10c	REPAIR OF STRUCTURAL SLAB TYPE C	SY	30	
D705-5.4	6" PIPE UNDERDRAIN – COMPLETE INCLUDING BACKFILL AND FILTER FABRIC	LF	180	
D705-5.5	6" SOLID PIPE UNDERDRAINS, COMPLETE, INCLUDING P-153 BACKFILL	LF	350	
D751-5.3	BOX INLETS	LF	200	
D751-5.4	INSPECTION HOLES	EA	8	
MC-003-6.1	TEMPORARY CONSTRUCTION ITEMS	LS	1	
MC-004-6.1	4" CONCRETE WEARING SLAB	SY	700	
MC-005-5.1	TUNNEL WATERPROOFING SYSTEM REMOVAL	SY	1100	
MC-005-5.2	TUNNEL WATERPROOFING SYSTEM INSTALLATION	SY	1100	
MC-005-5.3	REMOVAL AND DISPOSAL OF CLASS II ASBESTOS, PER PLAN	SY	1100	
MC-006-5.1	10" CONCRETE WALK REMOVED AND RECONSTRUCTED	SY	180	
MC-090-5.1	MECHANICAL ROOM WALL REPAIR	SF	40	
MC-090-5.2	REMOVAL OF EXISTING ELECTRICAL SERVICE	LS	1	
MC-091-5.1	SEWER CLEANING AND CCTV	LF	400	
MC-091-5.2	FLOOR SLAB REMOVAL AND REPLACEMENT	SF	400	
L-109-7.4	INSTALLATION OF EQUIPMENT IN EXISTING VAULT	EACH	1	
407-1	TACK COAT	GAL	82	
407-2	TACK COAT FOR INTERMEDIATE COURSE	GAL	44	
446-1	1" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG-22	CY	12	
446-2	VARIES 1"-3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG-22	CY	36	
516-1	3/4" PREFORMED EXPANSION JOINT FILLER	LF	200	
516-2	1/2" PREFORMED EXPANSION JOINT FILLER	LF	250	
516-3	1" PREFORMED EXPANSION JOINT FILLER	LF	200	
516-4	JOINT SEALER	LF	2000	
519	PATCHING CONCRETE STRUCTURE	SF	200	
642-2	LANE LINE, TYPE 2, 8" WIDE	SF	2000	

Revisions	Date	Description	By
A-3	03/19/24	SHEET INDEX & QUANTITIES REVISED	MSI

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

STATE OF OHIO
LANCE GRAHAM WAKAMOR
E-67035
REGISTERED
PROFESSIONAL ENGINEER

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT

Sheet Title: SHEET INDEX AND SUMMARY OF QUANTITIES

Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

Michael Baker INTERNATIONAL

Scale:	Project No.:
AS SHOWN	198348
Date: FEBRUARY 2024	Sheet: C-2

PROJECT DESCRIPTION:

THIS PROJECT CALLS FOR THE REMOVAL AND REPLACEMENT OF THE WATERPROOFING MEMBRANE COVERING THE RTA CONNECTOR/COLLECTOR TUNNEL. THE EXISTING MEMBRANE IS A MULTILAYERED SYSTEM CONSISTING OF WATERPROOFING MEMBRANES, FIBER REINFORCEMENT, AND PROTECTIVE SHEETS. THE REPLACEMENT INCLUDES THE FOLLOWING ITEMS:

- REMOVAL AND REPLACEMENT OF THE EXISTING MEMBRANE SYSTEM
- REMOVAL AND REPLACEMENT OF ASSOCIATED UNDERDRAINS
- THE REMOVAL AND REPLACEMENT OF THE SLOT DRAINS WITH BOX INLET DRAINS AS PER PLAN.
- THE PROJECT WILL REPAIR THE DAMAGE TO THE RTA CONNECTOR/COLLECTOR MECHANICAL ROOM WALL, INCLUDING THE RELOCATION OF THE ELECTRICAL SERVICE PANELS TO ELECTRICAL VAULT, EV-6.
- ALL OTHER ITEMS REQUIRED IN THE PROJECT DOCUMENTS.

GENERAL NOTES:

1. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS AND ANY RULES, REGULATIONS, STANDARDS OR SPECIFICATIONS REFERENCED THEREIN. THE PROJECT IS SUBJECT TO INSPECTION BY REPRESENTATIVES OF THE CITY OF CLEVELAND AND OTHER GOVERNING AGENCIES.
2. CLEVELAND HOPKINS INTERNATIONAL AIRPORT WILL BE IN OPERATION DURING THE CONSTRUCTION OF THIS PROJECT. COORDINATION OF WORK WITH AIRPORT AUTHORITIES IS MANDATORY SO AS TO MINIMIZE IMPACTS ON AIRPORT OPERATIONS, BOTH ON AND OFF THE AIRFIELD.
3. EXISTING AND PROPOSED GRADES – EXISTING GRADES SHOWN ON THE DRAWINGS ARE BELIEVED TO BE ACCURATE, BUT THE CITY OF CLEVELAND ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THESE GRADES. IF THE CONTRACTOR DOES NOT CONCUR WITH THE ELEVATIONS GIVEN ON THE DRAWINGS, THEY SHALL NOTIFY THE RESIDENT PROJECT REPRESENTATIVE IN WRITING PRIOR TO INITIATING ANY CONSTRUCTION ACTIVITIES.
4. THE WORK AREA SHALL BE PROPERLY SECURED AT THE END OF EACH WORKING DAY TO PREVENT VEHICLES AND PEOPLE FROM ENTERING THE SITE. CONTRACTOR SHALL PREVENT UNAUTHORIZED ACCESS TO THE PROJECT SITE DURING WORKING AND NON WORKING HOURS. ANY COSTS FOR TEMPORARY GATES, SECURITY PERSONNEL, OR OTHER MISCELLANEOUS ITEMS REQUIRED TO PROVIDE A SECURE ENVIRONMENT SHALL BE AT THE CONTRACTORS EXPENSE.
5. PERMITS – THE CONTRACTOR MUST OBTAIN PROPER PERMITS FROM THE CITY OF BROOKPARK AND CLEVELAND TO USE THEIR ROADS FOR DELIVERY OF MATERIALS AND EQUIPMENT TO THE SITE. ANY DAMAGE TO OFF-SITE ROADS SHALL BE THE COMPLETE RESPONSIBILITY OF THE CONTRACTOR. ALSO SEE GENERAL CONDITIONS FOR OTHER PERMITTING REQUIREMENTS.
6. WASTE AREAS – ALL EXCESS EXCAVATED MATERIAL, UNSUITABLE MATERIAL AND PAVEMENT RUBBLE SHALL BE DISPOSED OF OFF AIRPORT PROPERTY UNLESS DESIGNATED FOR RECYCLING. THE CONTRACTOR SHALL FURNISH THE RESIDENT PROJECT REPRESENTATIVE WITH COPIES OF SIGNED OFF-SITE WASTE AREA PERMITS. (A-2)
7. HAUL ROUTES – THE LOCATION OF HAUL ROUTES ON THE AIRPORT SITE SHALL BE COORDINATED WITH THE RESIDENT PROJECT REPRESENTATIVE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE OFF-SITE HAUL ROUTES (STATE HIGHWAYS, COUNTY ROADS, OR CITY STREETS) WITH THE APPROPRIATE OWNER WHO HAS JURISDICTION OVER THE AFFECTED ROUTE. ON-SITE ROADS UTILIZED AS HAUL ROUTES SHALL BE MAINTAINED BY THE CONTRACTOR AND SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE TO THEIR ORIGINAL CONDITION UPON COMPLETION OF BEING USED AS A HAUL ROUTE. THE BEFORE AND AFTER CONDITION OF ON-SITE HAUL ROADS SHALL BE JOINTLY INSPECTED AND DETERMINED BY THE RESIDENT PROJECT REPRESENTATIVE. FENCING, DRAINAGE, GRADING AND OTHER MISCELLANEOUS CONSTRUCTION REQUIRED TO CONSTRUCT TEMPORARY HAUL ROUTES OR ACCESS POINTS ON THE AIRPORT SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE WORK. ALL ON-SITE ACCESS ROADS TO AIRPORT FACILITIES SHALL REMAIN OPEN AND MAINTAINED AT ALL TIMES.
8. MOBILIZATION/EQUIPMENT STORAGE AREA – AN AREA WILL BE MADE AVAILABLE FOR CONTRACTOR'S MOBILIZATION AND STORAGE AS INDICATED ON THE GENERAL PROJECT LAYOUT.
9. VEHICLES – NO PRIVATE VEHICLES ARE ALLOWED ON THE AIRPORT BEYOND THE DESIGNATED PARKING AREA. ALL VEHICLES OPERATING ON THE AIRPORT, EXCEPT CONSTRUCTION EQUIPMENT, MUST HAVE PROPER IDENTIFICATION SIGNS, AIRFIELD VEHICLE PERMITS, FAA APPROVED BEACONS, AND/OR FLAGS. ANY VEHICLE NOT ELIGIBLE FOR REGISTRATION TO OPERATE ON PUBLIC ROADWAYS SHALL BE CONSIDERED CONSTRUCTION EQUIPMENT. HAUL TRUCKS MUST HAVE COMPANY LOGO SIGNS, BEACONS, AND/OR FLAGS AND LIGHTS.
10. SAFETY – THE CONTRACTOR SHALL CONDUCT ACTIVITIES IN A SAFE MANNER AS SPECIFIED IN THE SAFETY/PHASING PLAN AND IN ACCORDANCE WITH FEDERAL AVIATION ADMINISTRATION (FAA) ADVISORY CIRCULAR 150/5370-2G "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION" CURRENT EDITION, AND TO CONTRACT SPECIFICATIONS.
11. PROTECTION AND REPAIR OF DAMAGE TO EXISTING CABLES – LOCATION OF KNOWN EXISTING AIRPORT UNDERGROUND CABLES ARE SHOWN ON PLANS AND MUST BE VERIFIED BY THE CONTRACTOR. REPAIR OF DAMAGED CABLE MUST BE STARTED IMMEDIATELY AND CONTINUED UNTIL COMPLETED. ALL SUCH REPAIRS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS, OR AS DIRECTED BY THE OWNER OF THE CABLE, AND SHALL BE AT THE CONTRACTOR'S EXPENSE. IF FAA CABLES ARE DAMAGED, REPAIRS SHALL BE DONE FROM POINT TO POINT IN ACCORDANCE WITH FAA REQUIREMENTS AND IN THE PRESENCE OF AN FAA REPRESENTATIVE. THE OWNER MAY ELECT TO HAVE THE REPAIR PERFORMED BY OTHERS, IN WHICH CASE THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING THE INCURRED COSTS OF REPAIRS.

GENERAL NOTES (CONT.):

12. CONSTRUCTION LIMITS – ALL CONTRACTOR VEHICLES AND TRAFFIC (UNLESS OTHERWISE AUTHORIZED) SHALL REMAIN WITHIN THE DESIGNATED LIMITS OR HAUL ROUTES.
13. COORDINATION MEETINGS – CLEVELAND AIRPORT SYSTEM PERSONNEL SHALL CONDUCT WEEKLY COORDINATION MEETINGS TO DISCUSS WORK AREAS, SCHEDULING, SAFETY, ETC. WITH THE RESIDENT PROJECT REPRESENTATIVE, AIRPORT OPERATIONS, AND OTHER APPROPRIATE OFFICIALS. MINUTES FROM THE WEEKLY MEETINGS SHALL BE PREPARED BY THE CLEVELAND AIRPORT PERSONNEL, FURNISHED TO ALL ATTENDEES PRIOR TO THE SUBSEQUENT MEETING, AND KEPT ON FILE AT THE FIELD OFFICE. (A-3)
14. OTHER CONSTRUCTION PROJECTS – SEVERAL OTHER CONSTRUCTION PROJECTS WILL BE TAKING PLACE CONCURRENTLY WITH, AND IN SOME CASES DIRECTLY ADJACENT TO THIS PROJECT. CONTRACTOR IS REQUIRED TO COORDINATE, THROUGH THE RESIDENT PROJECT REPRESENTATIVE AND AIRPORT ENGINEER, WITH THOSE CONTRACTORS TO ELIMINATE CONFLICTS BETWEEN SCHEDULES, WORK AREAS, ACCESS AND OTHER POTENTIAL ISSUES.
15. UTILITIES & EXCAVATION – CONTACT NUMBERS FOR UTILITY LOCATIONS ARE AS FOLLOWS:

OHIO UTILITIES PROTECTION SERVICE (OUPS)
100 FEDERAL PLAZA EAST
LOWER LEVEL
YOUNGSTOWN, OHIO 44503
(800) 362-2764

DEPARTMENT OF PORT CONTROL
CLEVELAND HOPKINS INTERNATIONAL AIRPORT
5300 RIVERSIDE DRIVE
CLEVELAND, OHIO 44135
(216) 265-6007 (ELECTRICAL)
(216) 265-6090 (AIRPORT OPERATIONS)
(216) 265-6061 (AIRPORT ENGINEER)
(216) 898-5207 (SECURITY)
(216) 265-6080 (MECHANICAL)

AMERITECH
11TH FLOOR
150 EAST GAY STREET
COLUMBUS, OHIO 43215
(614) 223-5123

CITY OF CLEVELAND
WATER DEPARTMENT
1201 LAKESIDE AVENUE
CLEVELAND, OHIO 44114
(216) 664-4444

THE ILLUMINATING COMPANY
6896 MILLER RD. SUITE 209
BROOKSVILLE, OH 44141
GLENN PRYOR
440-717-5482
(800) 589-3101

EAST OHIO GAS
1201 EAST 55TH STREET
CLEVELAND, OHIO 44103
MS. MARGARET BEVEL
(216) 736-6831
(800) 362-7557

16. CONCRETE TRUCK WASHOUT – CONCRETE TRUCK WASHOUT MAY BE IN DESIGNATED AIRPORT AREAS AS DIRECTED BY THE AIRPORT ENGINEER AND MUST COMPLY WITH SWPJ. THE AREA(S) SHALL BE RESTORED TO ITS ORIGINAL CONDITION UPON COMPLETION OF THE PROJECT. IF, IN THE OPINION OF THE RESIDENT PROJECT REPRESENTATIVE, CONCRETE TRUCK WASHOUTS ARE NOT CONTAINED WITHIN THE DESIGNATED AREAS OR DISPOSAL PROCEDURES DO NOT COMPLETELY REMOVE WASHOUT MATERIALS FROM AIRPORT PROPERTY, THE CONTRACTOR SHALL MAKE SUITABLE ARRANGEMENTS FOR WASHOUTS OFF AIRPORT PROPERTY (SEE NOTE 6).
17. STRUCTURAL CONCRETE – ALL CONCRETE WORK ON THIS PROJECT SHALL BE CAST-IN-PLACE UNLESS OTHERWISE SHOWN ON PLANS. DRAINAGE AND ELECTRICAL STRUCTURES MAY BE PRECAST PROVIDED THAT THEY ARE PLACED ON AN APPROVED BASE AND THAT THE MANUFACTURER CERTIFIES THE PRECAST STRUCTURE WILL MEET THE STRUCTURAL DESIGN REQUIREMENTS. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL OF ALL REINFORCED CONCRETE STRUCTURES, AND SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OHIO.
18. RADIOS – THE CONTRACTOR SHALL FURNISH RADIOS OR CELL PHONES TO ALL FLAG PERSONS, GATE SECURITY PERSONNEL AND TO ONE PERSON FROM AIRPORT OPERATIONS. THE FREQUENCY SHALL BE APPROVED BY THE RESIDENT PROJECT REPRESENTATIVE BUT CAN ONLY BE USED IN MAINTAINING THE SAFE OPERATION OF THE PROJECT. AS AN ALTERNATIVE GATE GUARDS AND FLAGGERS MAY BE ISSUED CELL PHONES. CELL PHONE NUMBERS SHALL BE GIVEN TO AIRPORT OPERATIONS.
19. MAINTENANCE OF TRAFFIC – TRAFFIC SHALL BE MAINTAINED ON ALL AIRPORT AND PUBLIC ROADS AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING WARNING SIGNS, FLAG PERSONS, BARRICADES, AND OTHER ITEMS AS REQUIRED IN ACCORDANCE WITH ODOT SECTION 614, MC-003, AND THE PROJECT DOCUMENTS.
20. WORK DONE CONTRARY TO THE INSTRUCTIONS OF THE ENGINEER, WORK DONE BEYOND THE LINES SHOWN ON THE PLANS OR AS GIVEN, EXCEPT AS HEREIN SPECIFIED, OR ANY EXTRA WORK DONE WITHOUT AUTHORITY, WILL BE CONSIDERED AS UNAUTHORIZED AND WILL NOT BE PAID FOR UNDER THE PROVISIONS OF THE CONTRACT. WORK SO DONE MAY BE ORDERED REMOVED OR REPLACED AT THE CONTRACTOR'S EXPENSE. (A-3)
21. UPON THE CONTRACTOR'S FAILURE TO COMPLY IMMEDIATELY WITH ANY ORDER OF THE RESIDENT PROJECT REPRESENTATIVE UNDER THE PROVISIONS OF THIS CONTRACT, THE RESIDENT PROJECT REPRESENTATIVE WILL HAVE AUTHORITY TO CAUSE UNACCEPTABLE WORK TO BE REMEDIED OR REMOVED AND REPLACED AND UNAUTHORIZED WORK TO BE REMOVED AND TO DEDUCT THE COSTS (INCURRED BY THE OWNER) FROM ANY MONIES DUE OR TO BECOME DUE THE CONTRACTOR.

GENERAL NOTES (CONT.):

22. CONTRACTOR TO FIELD VERIFY ALL EXISTING GROUND CONDITIONS AS SHOWN ON THE PLAN SHEETS. (SEE NOTE 3).

Revisions	Date	Description	By
A-3	03/19/24	NOTE REVISIONS	MSI

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

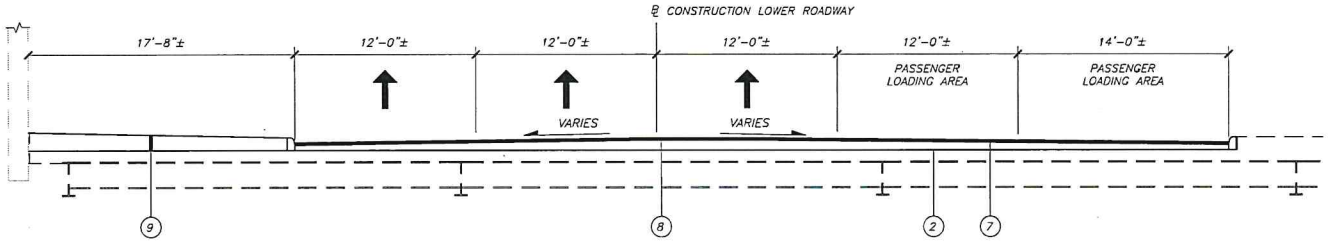
STATE OF OHIO – LANCE GRAHAM WANAMAKER – E-87033 – REGISTERED PROFESSIONAL ENGINEER

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT
Sheet Title: GENERAL NOTES

Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

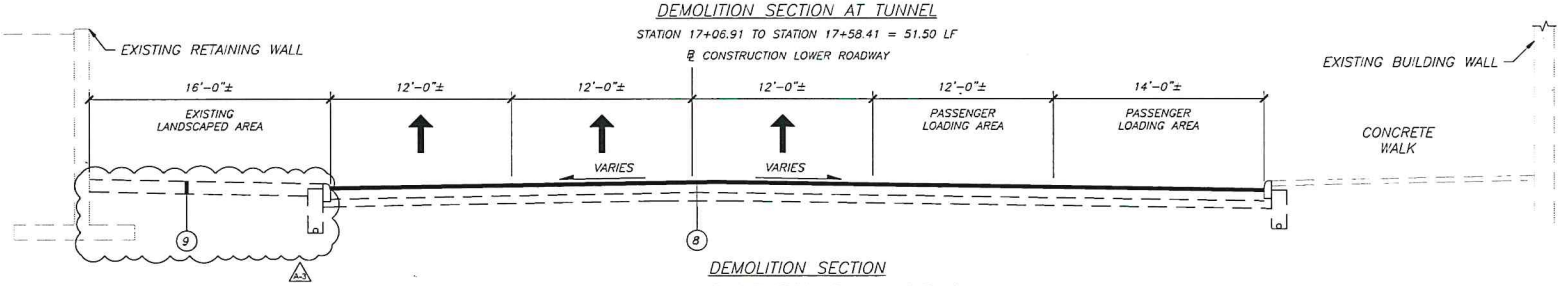
Michael Baker INTERNATIONAL

Scale:	Project No.:
AS SHOWN	198348
Date: FEBRUARY 2024	Sheet: C-3



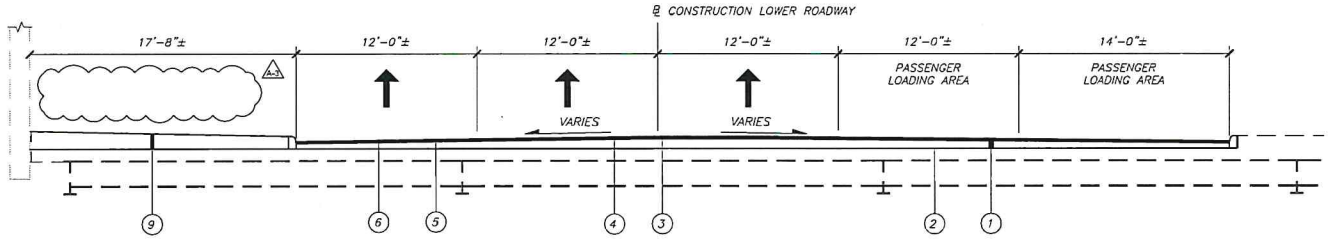
DEMOLITION SECTION AT TUNNEL

STATION 17+06.91 TO STATION 17+58.41 = 51.50 LF



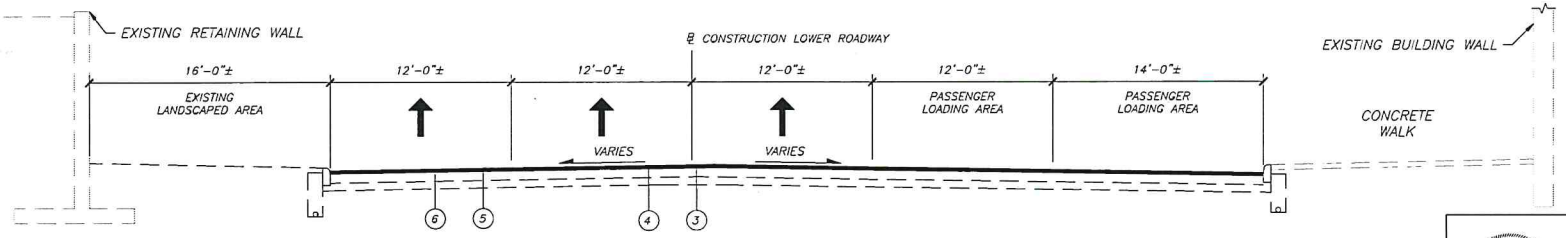
DEMOLITION SECTION

STATION 16+72.60 TO STATION 17+06.91 = 34.31 LF
STATION 17+58.41 TO STATION 17+93.38 = 34.97 LF



PROPOSED TYPICAL SECTION AT TUNNEL

STATION 17+06.91 TO STATION 17+58.41 = 51.50 LF



PROPOSED TYPICAL SECTION

STATION 16+72.60 TO STATION 17+06.91 = 34.31 LF
STATION 17+58.41 TO STATION 17+93.38 = 34.97 LF

DEMOLITION LEGEND

(2) MC-005 TUNNEL WATERPROOFING SYSTEM

(7) P101 4" CONCRETE WEARING SURFACE REMOVAL

(8) P101 3"± COLD MILLING

(9) MC-006 10" CONCRETE WALK REMOVED AND RECONSTRUCTED

PROPOSED LEGEND

(1) MC-004 – 4" CONCRETE WEARING SLAB

(2) ITEM SPECIAL – TUNNEL WATERPROOFING SYSTEM

(3) ITEM 448 – 1" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22

(4) ITEM 448 – VARIES 1"-3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22

(5) ITEM 407 – TACK COAT

(6) ITEM 407 – TACK COAT FOR INTERMEDIATE COURSE

(9) MC-006 – WALKWAY MISC.: 10" CONCRETE WALK REMOVED AND RECONSTRUCTED

Revisions	Date	Description	By
A-3	03/19/24	PLAN CHANGES	MSI

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT

Sheet Title: TYPICAL SECTIONS - 2

Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

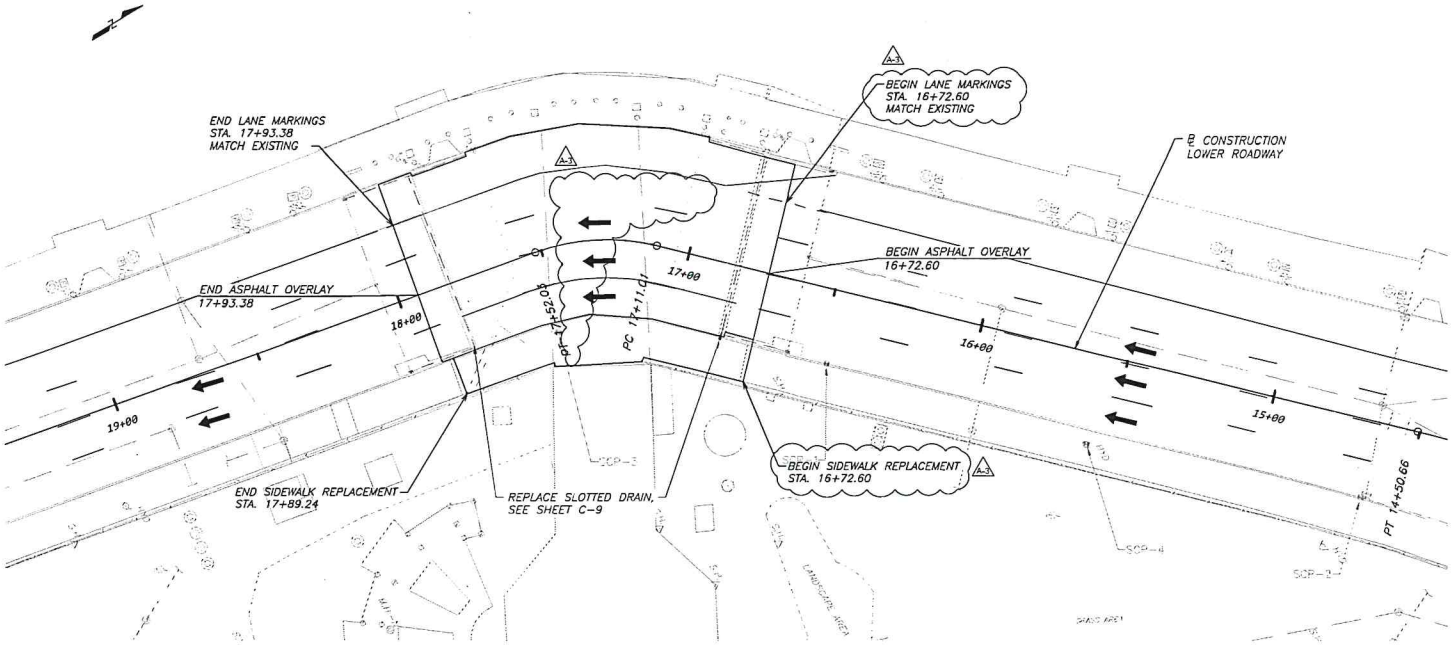
Michael Baker INTERNATIONAL

Scale: AS SHOWN | Project No.: 198348

Date: FEBRUARY 2024 | Sheet: C-6

STATE OF OHIO LANCE GRAHAM WAN-AMMER E-67035 REGISTERED PROFESSIONAL ENGINEER

Addendum #3 – File No. 19-24 RTA Tunnel Membrane Replacement



NOTE: STRUCTURAL CAPACITY OF THE EXISTING LOWER ROADWAY TUNNEL FRAMING IS LIMITED TO A MAXIMUM TOTAL VEHICLE WEIGHT OF 21 TONS FOR A SINGLE VEHICLE AND A MAXIMUM TOTAL WEIGHT OF 7 TONS FOR MULTIPLE VEHICLES DRIVEN SIDE BY SIDE. NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF ALLOWABLE UNIT STRESSES AS DEFINED IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION, OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. SUBMIT STRUCTURAL ANALYSIS COMPUTATIONS, BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE REMOVAL METHODS OR EQUIPMENT TO THE DEPARTMENT OF PORT CONTROL AT LEAST 10 DAYS BEFORE CONSTRUCTION BEGINS.

Revisions	Date	Description	By
A-3	03/19/24	LEADER REMOVED; LEADER ADJUSTED	MSI

CLEVELAND HOPKINS
INTERNATIONAL AIRPORT
CLEVELAND, OHIO

STATE OF OHIO
LANCE GRAHAM WAN-HAMMER
E-87035
REGISTERED
PROFESSIONAL ENGINEER

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT

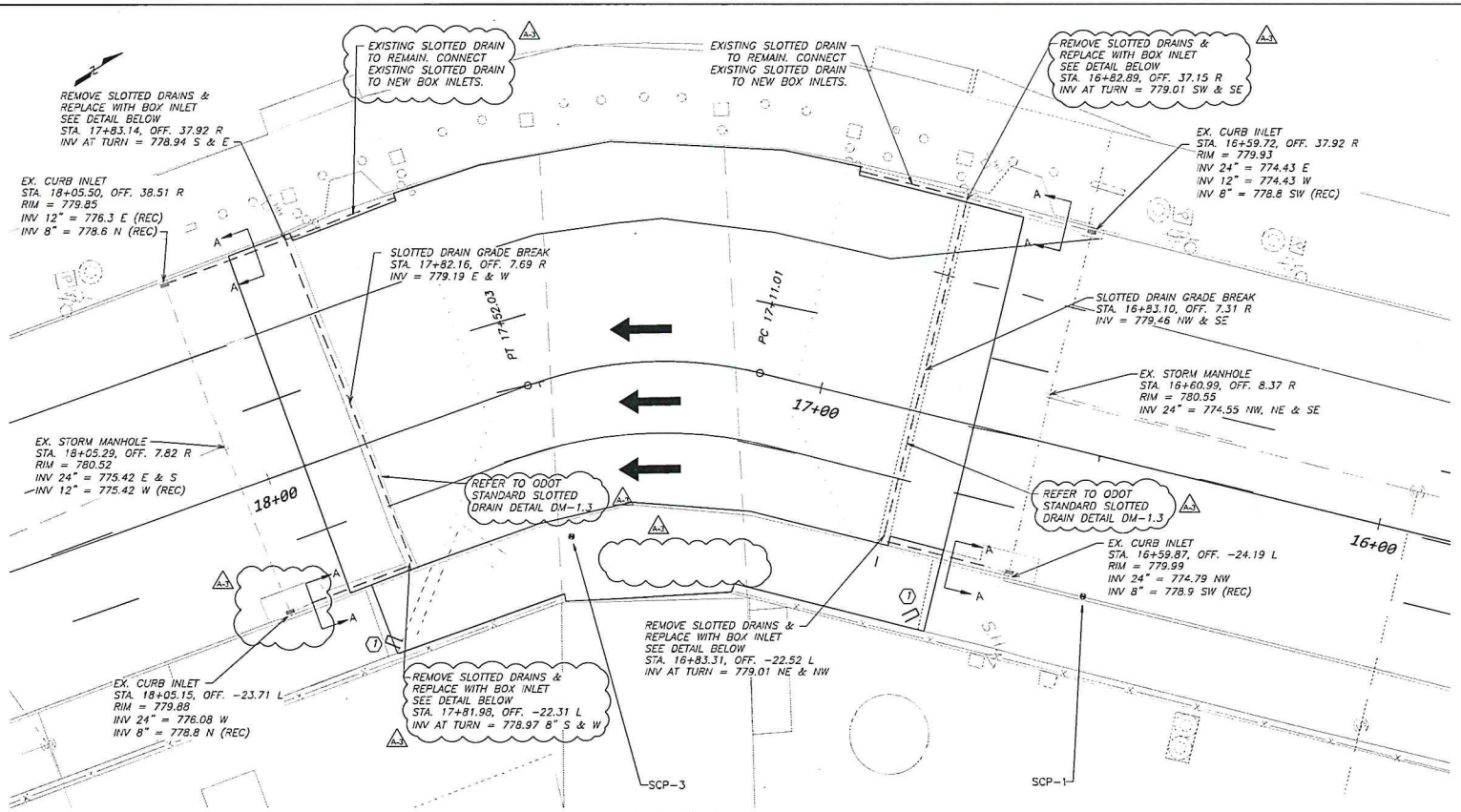
Sheet Title: PROPOSED LOWER ROADWAY PLAN

Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

Michael Baker INTERNATIONAL

Scale:	Project No.:
AS SHOWN	198348
Date:	Sheet:
FEBRUARY 2024	C-7

Addendum #3 – File No. 19-24 RTA Tunnel Membrane Replacement

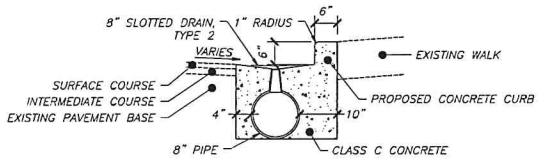


NOTES:

1. CONTRACTOR TO SURVEY AND NOTE LOCATIONS OF ALL MARKINGS TO BE REMOVED. AT THE CONCLUSION OF THE WORK, CONTRACTOR TO REINSTALL MARKINGS AT THEIR ORIGINAL LOCATIONS.

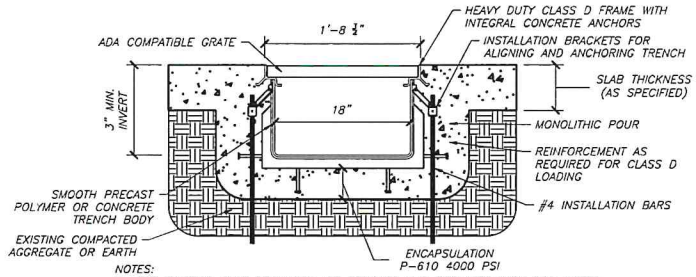
KEYNOTES:

(1) ELECTRICAL CONDUITS EXPOSED APPROX. 2' BELOW SIDEWALK.



SECTION A-A
(TYPICAL ALONG CURB)

EXISTING 8" SLOTTED DRAIN, TYPE 2
SEE ODOT STANDARD DRAWING DM-1.3



NOTES:
1. THE EXISTING SLOT DRAIN WILL BE REMOVED AND REPLACED WITH BOX INLETS.
2. SEE OHIO DOT STANDARD DRAWING DM-1.3 FOR SLOT DRAIN TYPICAL SECTION
3. STANDARD SLOPE IS 0.5% UNLESS OTHERWISE SPECIFIED
4. REINFORCE ACCORDING TO STRUCTURAL REQUIREMENTS FOR CLASS D LOADING
5. TRENCH DRAIN MUST BE ⅛" BELOW FINISHED CONCRETE GRADE

D751 BOX INLET
SCALE: NTS

Revisions	Date	Description	By
A-3	03/19/24	PLAN REVISIONS	MSI

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

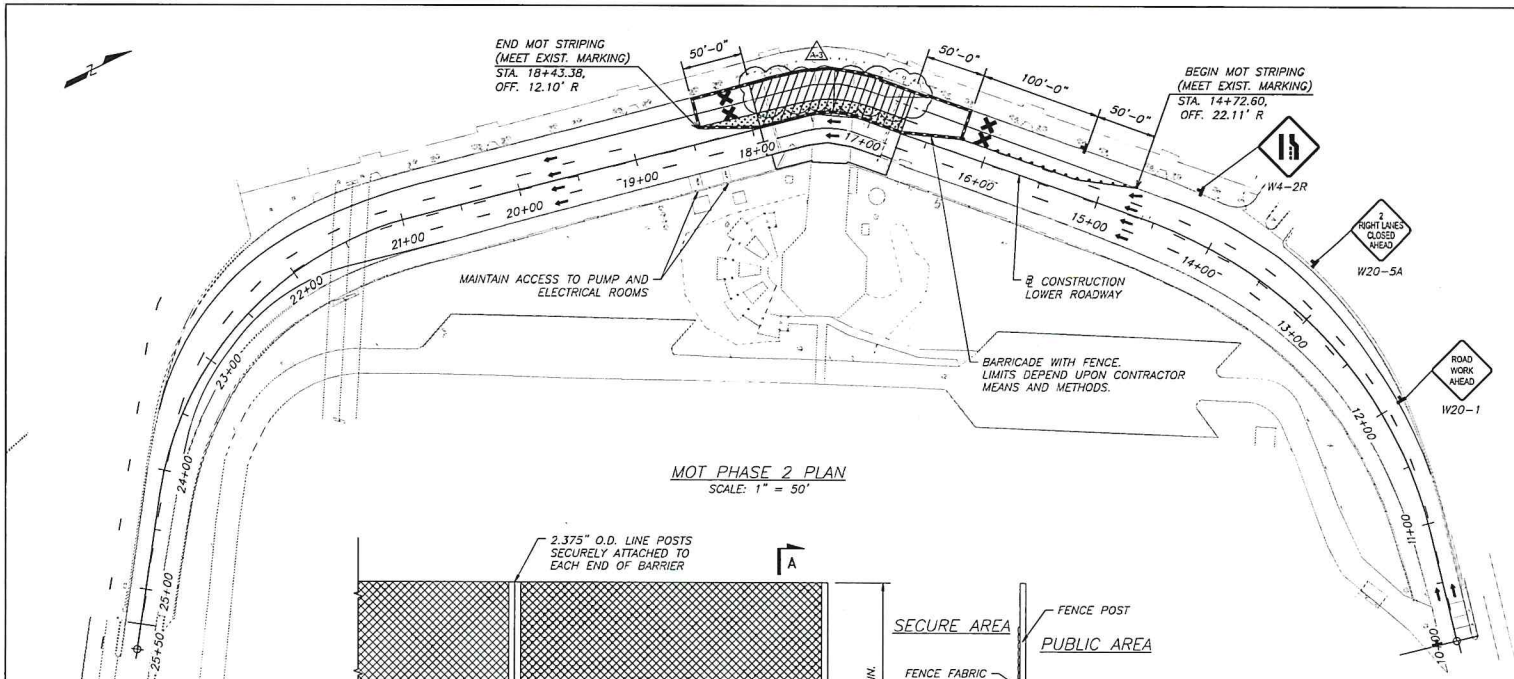
STATE OF OHIO — LANCE GRAHAM VAN HAVER — E-67035 — REGISTERED PROFESSIONAL ENGINEER

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT
Sheet Title: DRAINAGE DETAILS

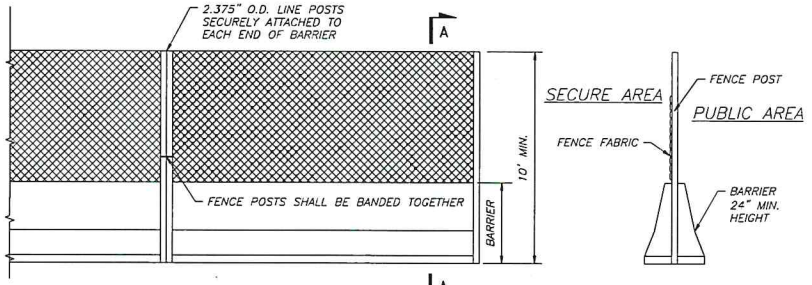
Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

Michael Baker INTERNATIONAL

Scale:	Project No.:
AS SHOWN	198348
Date:	Sheet:
FEBRUARY 2024	C-9



MOT PHASE 2 PLAN
SCALE: 1" = 50'

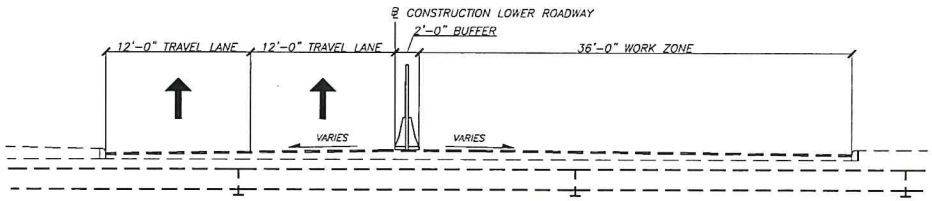


BARRICADE WITH FENCE DETAIL
SCALE: NTS

SECTION A–A
SCALE: NTS

NOTES

1. BARRIERS WITH FENCING ON TOP SHALL BE 10' MIN. HEIGHT ABOVE GRADE. BARBED WIRE AND SAFETY LIGHTING AT 8' MAX. SPACING (AT PAVEMENT CROSSING) ARE REQUIRED ELEMENTS OF THE TEMPORARY FENCING.
2. THIS FENCE SHALL BE USED ON ALL PAVEMENT CROSSINGS.
3. MINIMUM HEIGHT TO TOP OF FENCE IS 10'–0".
4. 10' BUFFER (NO MEN/EQUIPMENT) APPLIES.



MOT PHASE 2 TYPICAL SECTION

PHASE 2 WORK

1. MILL ASPHALT CONCRETE WEARING COURSE OFF OF SURFACE
2. REMOVE EXISTING 4" CONCRETE WEARING SLAB, REMOVE EXISTING WATERPROOFING LAYER, AND REPLACEMENT OF THE TUNNEL FOOTER DRAINS.
3. MAKE ANY CONCRETE REPAIRS TO STRUCTURAL SLAB
4. INSTALL PROPOSED MC–005 WATERPROOFING AROUND TUNNEL
5. INSTALL PROPOSED MC–004 4" CONCRETE WEARING SLAB
6. REMOVE EXISTING SLOT DRAINS AND REPLACE WITH BOX INLETS
7. PLACE INTERMEDIATE ASPHALT CONCRETE COURSE
8. APPLY TEMPORARY PAVEMENT STRIPING

NOTES

1. USING CONSTRUCTION DRUMS AND TEMPORARY STRIPING, ESTABLISH A PART WIDTH WORK ZONE. MAINTAIN TWO 12' TRAVEL LANES THROUGHOUT THE WORK ZONE AT ALL TIMES.
2. CONTRACTOR TO SURVEY AND NOTE LOCATIONS OF ALL MARKINGS TO BE REMOVED. AT THE CONCLUSION OF THE WORK, CONTRACTOR TO REINSTALL MARKINGS AT THEIR ORIGINAL LOCATIONS.

LEGEND

- – WORK AREA, PHASE 2
- – DRUMS AT 10' C/C
- – BARRICADE WITH FENCE
- – TRAFFIC FLOW
- – CLOSED LANE
- – SHORING AREA

NOTE: ENTIRE SHEET REVISED FOR ADDENDUM A–3.

Revisions	Date	Description	By
A-3	03/18/24	PLAN REVISIONS	MSI

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT
Sheet Title: MAINTENANCE OF TRAFFIC - PHASE 2

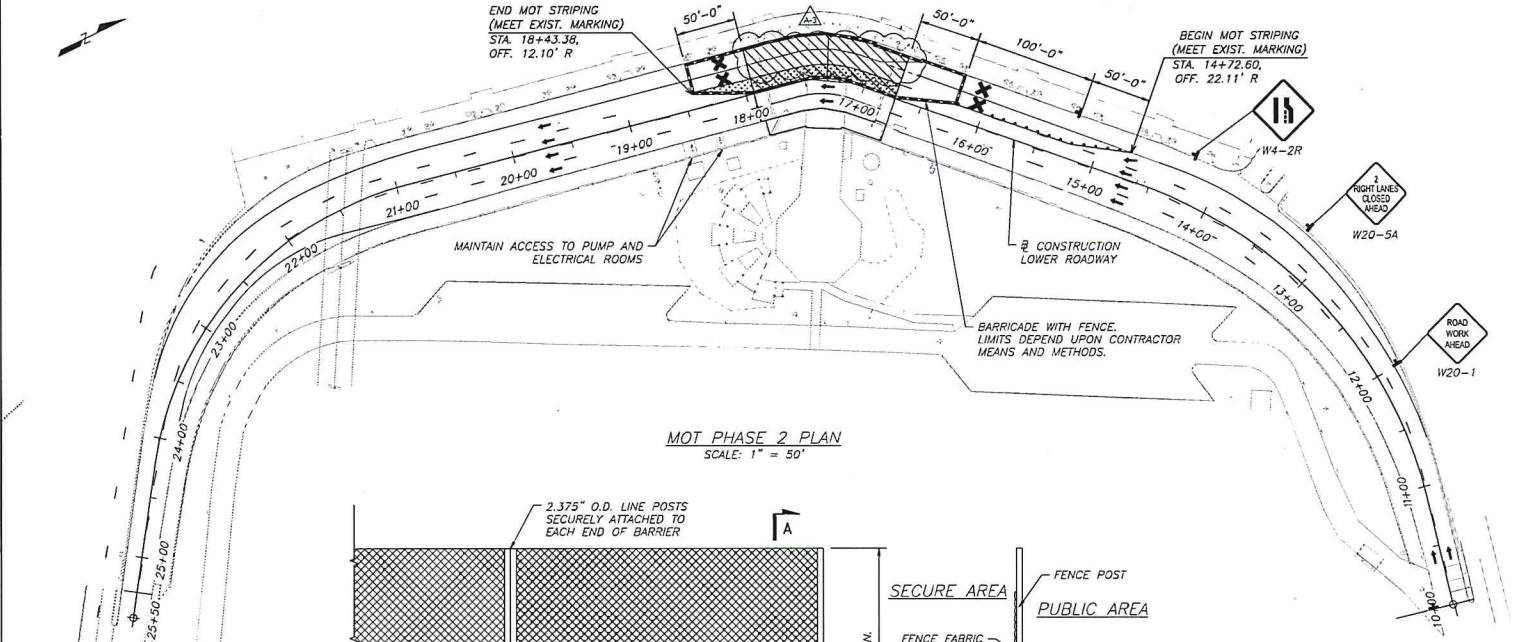
Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

Michael Baker INTERNATIONAL

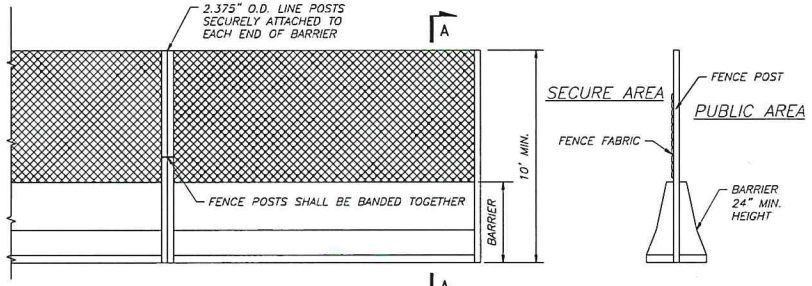
Scale:	Project No.:
AS SHOWN	198348
Date: FEBRUARY 2024	Sheet: C-11

STATE OF OHIO · LANCE GRAHAM WANAMAKER · E-67035 · REGISTERED PROFESSIONAL ENGINEER

Addendum #3 – File No. 19-24 RTA Tunnel Membrane Replacement



MOT PHASE 2 PLAN
SCALE: 1" = 50'

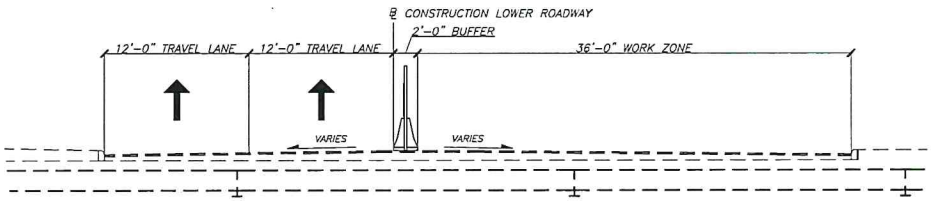


BARRICADE WITH FENCE DETAIL
SCALE: NTS

SECTION A–A
SCALE: NTS

NOTES

1. BARRIERS WITH FENCING ON TOP SHALL BE 10' MIN. HEIGHT ABOVE GRADE. BARBED WIRE AND SAFETY LIGHTING AT 8' MAX. SPACING (AT PAVEMENT CROSSING) ARE REQUIRED ELEMENTS OF THE TEMPORARY FENCING.
2. THIS FENCE SHALL BE USED ON ALL PAVEMENT CROSSINGS.
3. MINIMUM HEIGHT TO TOP OF FENCE IS 10'-0".
4. 10' BUFFER (NO MEN/EQUIPMENT) APPLIES.



MOT PHASE 2 TYPICAL SECTION

PHASE 2 WORK

1. MILL ASPHALT CONCRETE WEARING COURSE OFF OF SURFACE
2. REMOVE EXISTING 4" CONCRETE WEARING SLAB, REMOVE EXISTING WATERPROOFING LAYER, AND REPLACEMENT OF THE TUNNEL FOOTER DRAINS.
3. MAKE ANY CONCRETE REPAIRS TO STRUCTURAL SLAB
4. INSTALL PROPOSED MC-005 WATERPROOFING AROUND TUNNEL
5. INSTALL PROPOSED MC-004 4" CONCRETE WEARING SLAB
6. REMOVE EXISTING SLOT DRAINS AND REPLACE WITH BOX INLETS
7. PLACE INTERMEDIATE ASPHALT CONCRETE COURSE
8. APPLY TEMPORARY PAVEMENT STRIPING

NOTES

1. USING CONSTRUCTION DRUMS AND TEMPORARY STRIPING, ESTABLISH A PART WIDTH WORK ZONE. MAINTAIN TWO 12' TRAVEL LANES THROUGHOUT THE WORK ZONE AT ALL TIMES.
2. CONTRACTOR TO SURVEY AND NOTE LOCATIONS OF ALL MARKINGS TO BE REMOVED. AT THE CONCLUSION OF THE WORK, CONTRACTOR TO REINSTALL MARKINGS AT THEIR ORIGINAL LOCATIONS.

LEGEND

- WORK AREA, PHASE 2
- DRUMS AT 10' C/C
- BARRICADE WITH FENCE
- TRAFFIC FLOW
- CLOSED LANE
- SHORING AREA

NOTE: ENTIRE SHEET REVISED FOR ADDENDUM A-3.

Revisions	Date	Description	By
A-3	03/19/24	PLAN REVISIONS	MSI

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT

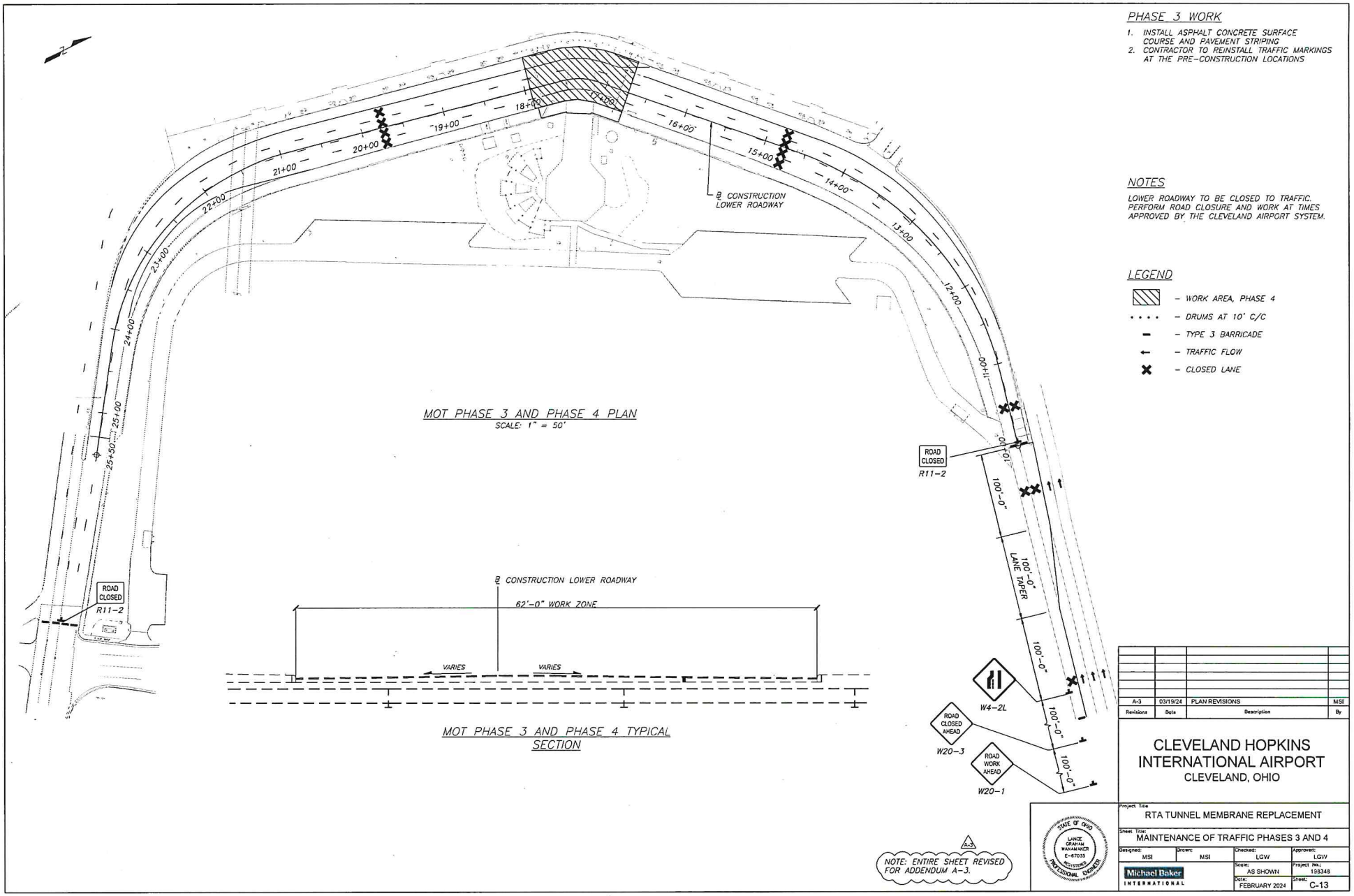
Sheet Title: MAINTENANCE OF TRAFFIC - PHASE 2

Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

Michael Baker INTERNATIONAL

Scale:	Project No.:
AS SHOWN	198348
Date:	Sheet:
FEBRUARY 2024	C-11

STATE OF OHIO — LANCE GRAHAM HANAMAKER — E-67035 — ACTIVE — PROFESSIONAL ENGINEER


PHASE 3 WORK
1. INSTALL ASPHALT CONCRETE SURFACE COURSE AND PAVEMENT STRIPING
2. CONTRACTOR TO REINSTALL TRAFFIC MARKINGS AT THE PRE-CONSTRUCTION LOCATIONS
NOTES
LOWER ROADWAY TO BE CLOSED TO TRAFFIC. PERFORM ROAD CLOSURE AND WORK AT TIMES APPROVED BY THE CLEVELAND AIRPORT SYSTEM.
LEGEND
- WORK AREA, PHASE 4
- DRUMS AT 10' C/C
- TYPE 3 BARRICADE
- TRAFFIC FLOW
- CLOSED LANE
MOT PHASE 3 AND PHASE 4 PLAN
SCALE: 1" = 50'
℄ CONSTRUCTION LOWER ROADWAY
ROAD CLOSED R11-2
62'-0" WORK ZONE
VARIES
MOT PHASE 3 AND PHASE 4 TYPICAL SECTION
100'-0"
LANE TAPER
W4-2L
ROAD CLOSED AHEAD W20-3
ROAD WORK AHEAD W20-1
NOTE: ENTIRE SHEET REVISED FOR ADDENDUM A-3.
A-3 03/19/24 PLAN REVISIONS MSI
Revisions Date Description By
CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO
Project Title: RTA TUNNEL MEMBRANE REPLACEMENT
Sheet Title: MAINTENANCE OF TRAFFIC PHASES 3 AND 4
Designed: MSI Drawn: MSI Checked: LGW Approved: LGW
Michael Baker INTERNATIONAL
Scale: AS SHOWN Project No.: 198348
Date: FEBRUARY 2024 Sheet: C-13

PROPOSED WORK

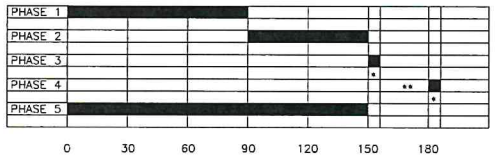
PHASE 1
1. INSTALL SCAFFOLDING/PEDESTRIAN PROTECTION UNDERNEATH TUNNEL TO MAINTAIN ACCESS TO THE RTA.
2. SET UP MOT STRIPING AND DRUMS TO CLOSE TRAFFIC TO LANES ON THE EAST SIDE OF THE MEDIAN AND CREATE WORKZONE WITH ASSOCIATED TAPERS FOR PHASE 1.
3. INSTAL BARRIER WITH FENCE, PER PLAN.
4. SAWCUT PHASE REMOVAL JOINT.
5. COLD MILLING, ASPHALT CONCRETE, 4"±.
6. REMOVE EXISTING 4" CONCRETE WEARING SLAB, CURB, & SIDEWALK.
7. REMOVE EXISTING WATERPROOFING SYSTEM ON THE STRUCTURAL SLAB AND TUNNEL WALLS.
8. INSPECT AND MAKE ANY NECESSARY REPAIRS TO EXISTING STRUCTURAL SLAB.
9. INSTALL PROPOSED WATERPROOFING SYSTEM AND CONCRETE WEARING SLAB. WATERPROOFING SHOULD EXTEND BEYOND LONGITUDINAL PHASE CONSTRUCTION JOINT. WEARING SLAB SHOULD TERMINATE AT PHASE CONSTRUCTION JOINT.
10. REMOVE EXISTING SLOTTED DRAINS IN THE PHASE 1 WORK AREA AND REPLACE WITH BOX INLETS PER PROJECT PLANS. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY CONNECTIONS TO THE EXISTING SYSTEM.
11. INSTALL PROPOSED INTERMEDIATE COURSE OF ASPHALT CONCRETE.
12. INSTALL TEMPORARY PAVEMENT MARKINGS FOR MAINTENANCE OF TRAFFIC IN PHASE 2.

PHASE 2
1. USE DRUMS AND MOT STRIPING TO CREATE WORKZONE AND ASSOCIATED TAPERS FOR PHASE 2.
2. INSTALL BARRIER WITH FENCE, PER PLAN.
3. PAVEMENT COLD MILLING, ASPHALT CONCRETE, 4"±.
4. REMOVE EXISTING 4" CONCRETE WEARING SLAB, CURB, & WALK (CURB RAMP).
5. REMOVE EXISTING WATERPROOFING SYSTEM ON THE STRUCTURAL SLAB AND TUNNEL WALLS.
6. INSPECT AND MAKE ANY NECESSARY REPAIRS TO EXISTING STRUCTURAL SLAB.
7. INSTALL PROPOSED WATERPROOFING SYSTEM AND CONCRETE WEARING SLAB.
8. REMOVE EXISTING SLOTTED DRAINS IN THE PHASE 2 WORK AREA AND REPLACE WITH BOX INLETS PER PROJECT PLANS. CONNECT TO DRAINS INSTALLED IN PHASE 1.
9. INSTALL PROPOSED INTERMEDIATE COURSE OF ASPHALT CONCRETE.

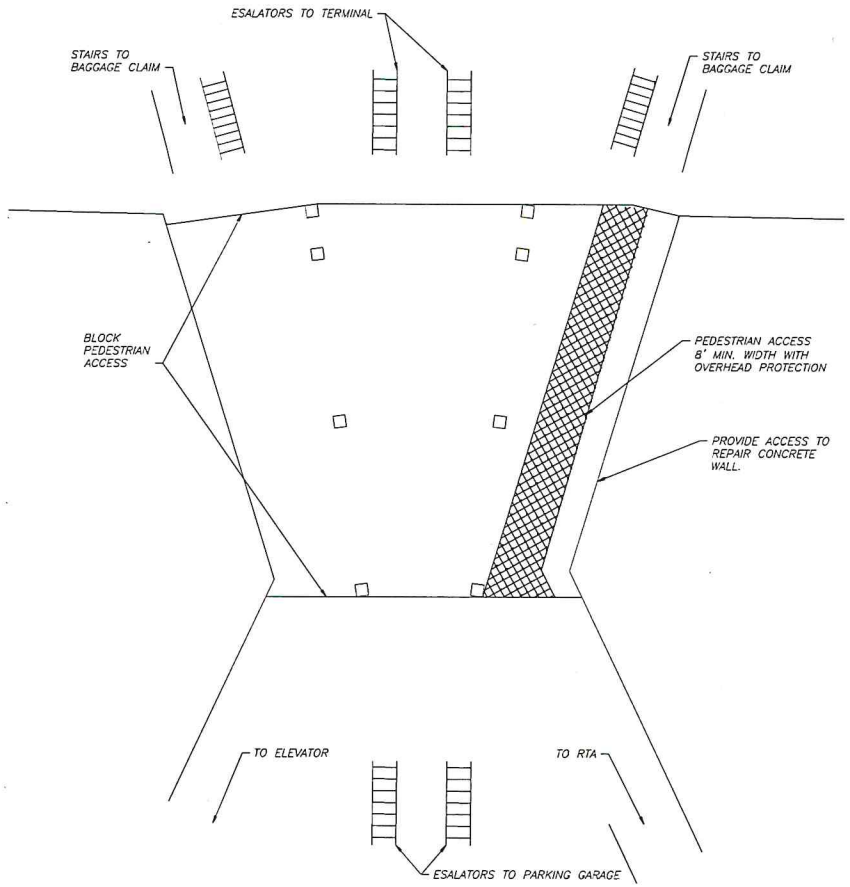
PHASE 3
1. USE DRUMS TO CLOSE LOWER ROADWAY TO ALL TRAFFIC DURING NIGHT WORK (CONTRACTOR MUST NOTIFY AND RECEIVE APPROVAL FROM CLEVELAND AIRPORT SYSTEM OF DATES AND TIMES ROAD TO BE CLOSED PRIOR TO WORK).
2. INSTALL 1" SURFACE COURSE OF ASPHALT CONCRETE.

PHASE 4
1. FINAL STRIPING WORK FOLLOWING 30 DAY ASPHALT CURE PERIOD..

PHASE 5
1. PLUMBING AND ELECTRICALS MODIFICATIONS IN THE RTA CONNECTOR/COLLECTOR MECHANICAL ROOM AND EV-6.
2. STRUCTURAL PATCHING AND INTERIOR MODIFICATIONS IN THE RTA CONNECTOR/COLLECTORS.



* 1 DAY DURATION
** 30 DAY CURE PERIOD



INTERIOR MAINTENANCE OF PEDESTRIAN TRAFFIC

NOTE: ENTIRE SHEET REVISED FOR ADDENDUM A-3 (A-3)

Revisions	Date	Description	By
A-3	03/19/24	PLAN REVISIONS	MSI

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT
Sheet Title: PHASING NOTES

Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

Michael Baker INTERNATIONAL
Scale: AS SHOWN
Project No.: 198348
Date: FEBRUARY 2024
Sheet: C-14

STATE OF OHIO — LANCE GRAHAM WAN-HAMER — E-67035 — REGISTERED PROFESSIONAL ENGINEER

Addendum #3 – File No. 19-24 RTA Tunnel Membrane Replacement

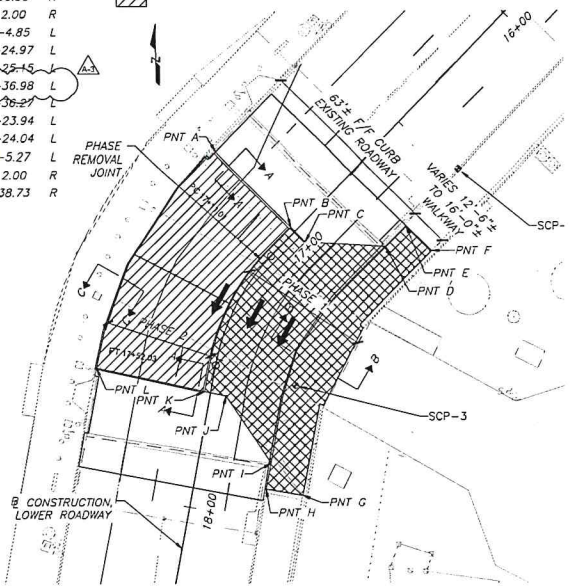
COORDINATE TABLE

POINT	STATION	OFFSET	
A	16+99.24	36.90	R
B	16+99.51	2.00	R
C	16+99.75	−4.85	L
D	16+82.20	−24.97	L
E	16+72.61	−25.15	L
F	16+72.60	−36.98	L
G	17+89.24	−36.27	L
H	17+89.45	−23.94	L
I	17+80.66	−24.04	L
J	17+61.49	−5.27	L
K	17+61.35	2.00	R
L	17+60.07	38.73	R

A-3

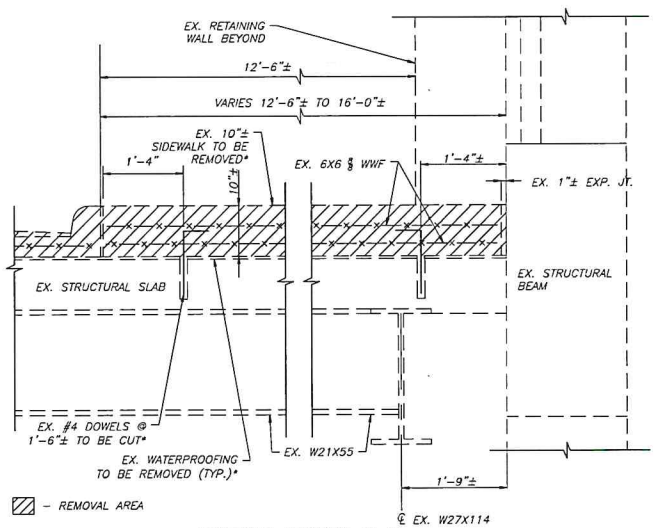
AREA TO BE REMOVED, PHASE 1

AREA TO BE REMOVED, PHASE 2



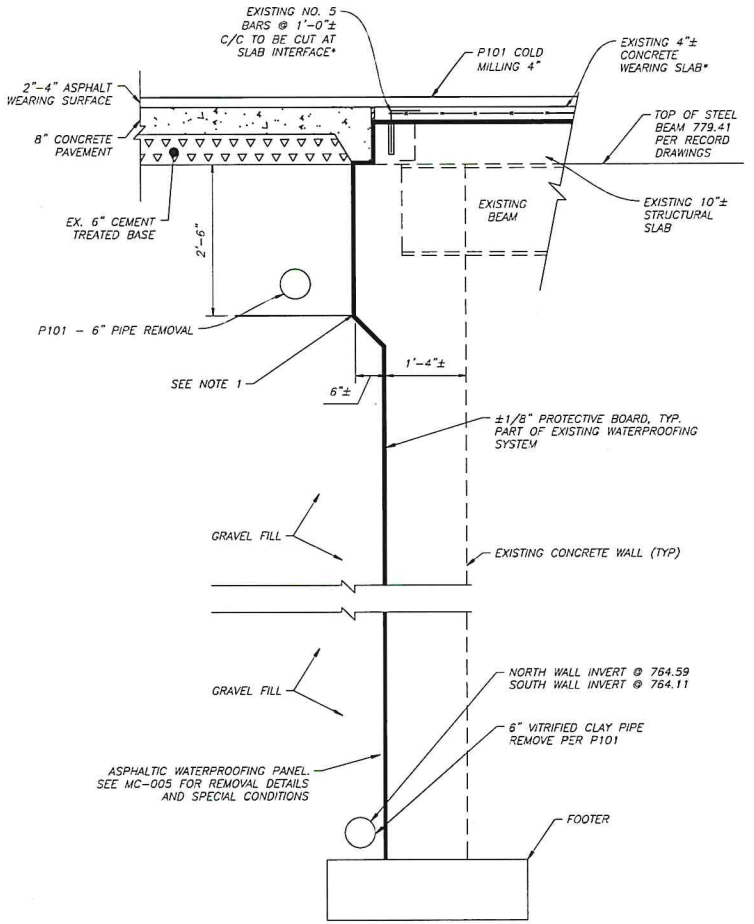
PHASE REMOVAL PLAN

SCALE: 1" = 20'



EXISTING SECTION B–B

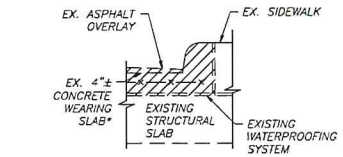
SCALE: 1" = 1'



EXISTING SECTION A–A

SCALE: NTS

NOTE 1: 2'–6" BELOW THE TOP OF THE STEEL BEAM REPRESENTS THE BOUNDARY BETWEEN TWO WATERPROOFING SYSTEMS. THE UPPER SYSTEM EXTENDS BELOW THE WEARING SLAB AND CONSISTS OF TWO (2) WATERPROOFING MEMBRANES, ½" PROTECTIVE BOARD, AND POLYESTER FABRIC REINFORCEMENT. THE REMAINDER OF THE WALL CONSISTS OF ASPHALTIC PANELS, ⅜" +/–, FABRIC REINFORCEMENT, AND WATERPROFFING MEMBRANES PER AVAILABLE INFORMATION. SEE MC-005 FOR REMOVAL OF THE WATERPROOFING SYSTEMS AND SPECIAL REQUIREMENTS.



AREA TO BE REMOVED

EXISTING SECTION C–C

SCALE: NTS

A-3

NOTE: ENTIRE SHEET REVISED FOR ADDENDUM A-3.

Revisions	Date	Description	By
A-3	03/19/24	PLAN REVISIONS	MSI

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

STATE OF OHIO — LANCE GRAHAM WAN-HAMMER — E-67035 — REGISTERED PROFESSIONAL ENGINEER

Michael Baker INTERNATIONAL

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT

Sheet Title: TUNNEL REPAIR - REMOVAL DETAILS

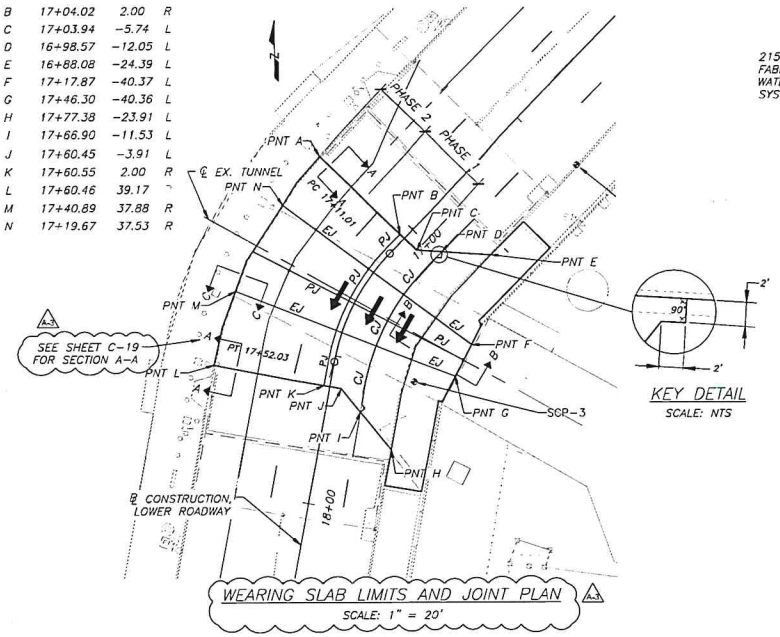
Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

Scale:	Project No.:
AS SHOWN	198348

Date:	Sheet:
FEBRUARY 2024	C-15

COORDINATE TABLE

POINT	STATION	OFFSET	
A	17+04.40	38.76	R
B	17+04.02	2.00	R
C	17+03.94	−5.74	L
D	16+98.57	−12.05	L
E	16+88.08	−24.39	L
F	17+17.87	−40.37	L
G	17+46.30	−40.36	L
H	17+77.38	−23.91	L
I	17+66.90	−11.53	L
J	17+60.45	−3.91	L
K	17+60.55	2.00	R
L	17+60.46	39.17	R
M	17+40.89	37.88	R
N	17+19.67	37.53	R

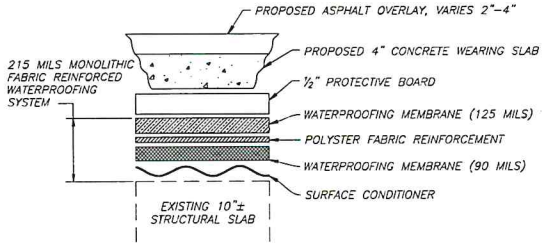


WEARING SLAB LIMITS AND JOINT PLAN

SCALE: 1" = 20'

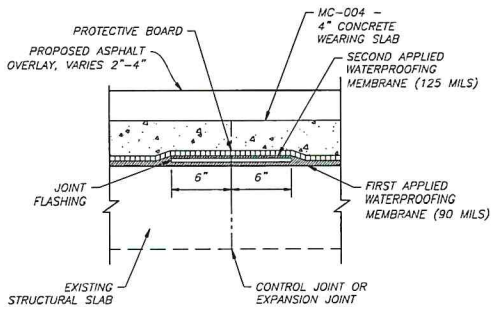
KEY DETAIL

SCALE: NTS



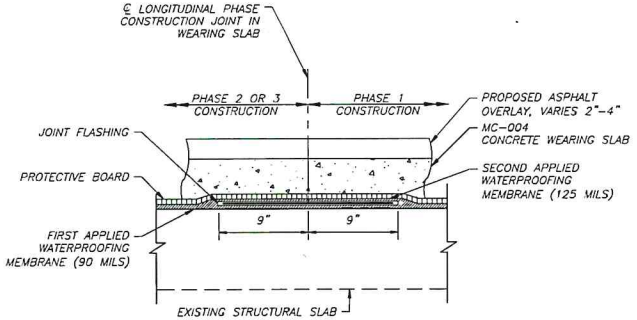
TYPICAL WATERPROOFING SYSTEM DETAIL

SCALE: NTS



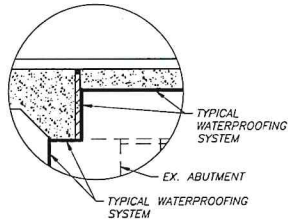
TYPICAL WATERPROOFING SYSTEM DETAIL
AT CONTROL JOINTS (CJ) OR EXPANSION JOINTS (EJ)

SCALE: NTS



TYPICAL WATERPROOFING SYSTEM DETAIL
PHASE CONSTRUCTION JOINT (PJ)

SCALE: NTS



DETAIL C

SCALE: NTS

NOTES:
1. SEE SHEET C-19 FOR SECTION B-B AND C-C WATERPROOFING DETAILS.

Revisions	Date	Description	By
A-3	03/19/24	PLAN REVISIONS	MSI

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

STATE OF OHIO — LANCE GRAHAM WAHLAMER E-67035 REGISTERED PROFESSIONAL ENGINEER

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT

Sheet Title: TUNNEL REPAIR - WATERPROOFING DETAILS

Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

Michael Baker INTERNATIONAL

Scale:	Project No.:
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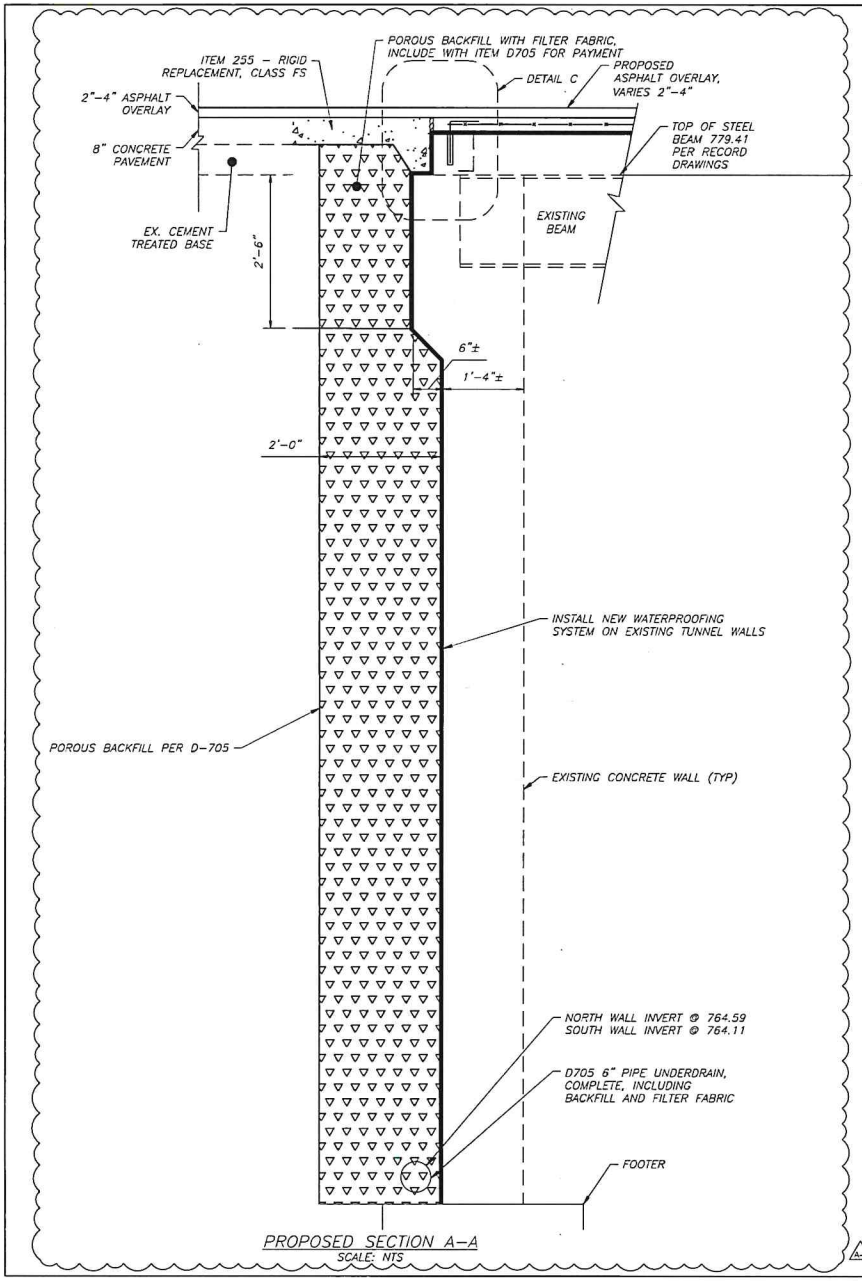
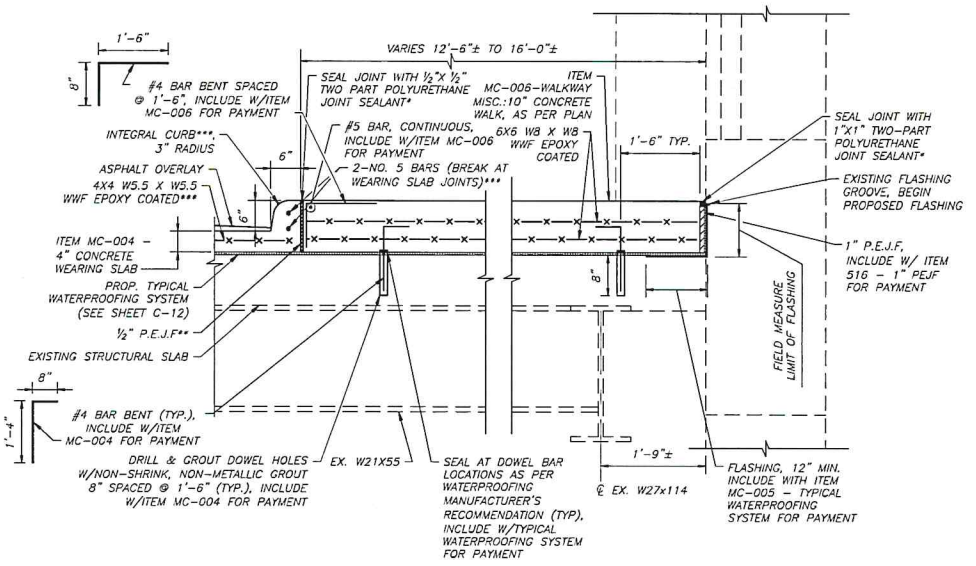
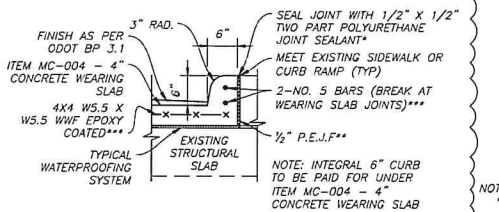
Date: FEBRUARY 2024	Sheet: C-17



PROPOSED SECTION A–A
SCALE: NTS

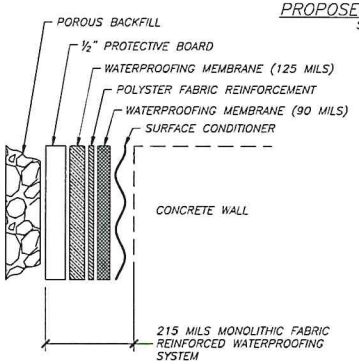


PROPOSED SECTION B–B
SCALE: NTS



PROPOSED SECTION C–C
SCALE: NTS

NOTES:
* INCLUDE WITH ITEM 516 – TWO COMPONENT POLYURETHANE SEALANT FOR PAYMENT
** INCLUDE WITH ITEM 516 – 1/2" PEJF FOR PAYMENT
*** INCLUDE WITH MC–004 4" CONCRETE WEARING SLAB FOR PAYMENT



TYPICAL WALL WATERPROOFING SYSTEM DETAIL
SCALE: NTS

Revisions	Date	Description	By
A-3	03/19/24	PLAN REVISIONS	MSI

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT
Sheet Title: TUNNEL REPAIR - WEARING SLAB DETAILS

Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

Michael Baker INTERNATIONAL
Scale: AS SHOWN
Project No.: 198348
Date: FEBRUARY 2024
Sheet: C-19

WASTE MANAGEMENT (CONT.)

7. ALL HAZARDOUS WASTE MATERIALS SUCH AS OIL FILTERS, PETROLEUM PRODUCTS, PAINTS, AND EQUIPMENT MAINTENANCE FLUIDS WILL BE SEGREGATED FROM OTHER NON-HAZARDOUS WASTE MATERIALS AND STORED IN APPROPRIATE AND CLEARLY MARKED SEALED SHIPPING CONTAINERS, WITHIN THE HAZARDOUS MATERIALS STORAGE AREA. SECONDARY CONTAINMENT WILL BE PROVIDED FOR ALL WASTE MATERIALS IN THE HAZARDOUS MATERIALS STORAGE AREA AND WILL CONSIST OF COMMERCIALLY AVAILABLE SPILL PALLETS.

8. ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND MUNICIPAL REGULATIONS. HAZARDOUS WASTE MATERIALS WILL NOT BE DISPOSED OF INTO THE ON-SITE DUMPSTERS.

9. NO MATERIALS WILL BE BURIED ON-SITE, NOR WILL ANY OPEN BURNING OCCUR ON-SITE.

10. ALL MATERIAL STORAGE AND DISPOSAL WILL BE LOCATED IN THE STAGING AREAS SHOWN ON THE PLANS. THE STAGING AREA SHALL BE ESTABLISHED ON EXISTING PAVEMENT OR A STONE BASE. CONSTRUCTION ENTRANCES ARE SHOWN ON THE PLANS. IF NEEDED, ADDITIONAL CONSTRUCTION ENTRANCE(S) AND/OR HAUL ROADS SHALL BE ESTABLISHED ON 10" OF ODOT #2 (1.5-2.5 INCH) STONE BASE. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN THE STONE SUCH THAT IT IS REPLENISHED WHEN THE DEPTH IS LESS THAN 10" OR REMOVED AND REPLACED IF THE STONE BECOMES MUD-LADEN. THE FOLLOWING ITEMS SHALL BE LOCATED AT THE STAGING AREA UNLESS OTHERWISE AUTHORIZED: STORAGE OR DISPOSAL OF SOLID, SANITARY, AND HAZARDOUS WASTES, INCLUDING DUMPSTER AREAS, CONCRETE TRUCK WASHOUT AREAS AND VEHICLE FUELING AREAS.

11. THE CONTRACTOR WILL BE RESPONSIBLE FOR INSTRUCTING PERSONNEL REGARDING THE CORRECT DISPOSAL OF TRASH AND CONSTRUCTION DEBRIS AS WELL AS PROPER PROCEDURES FOR HAZARDOUS WASTE DISPOSAL. NOTICES THAT STATE THESE PROCEDURES WILL BE POSTED IN THE OFFICE TRAILER, AND THE INDIVIDUAL WHO MANAGES DAY-TO-DAY OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

12. THE CONTRACTOR MUST ENSURE THAT ALL CONSTRUCTION PERSONNEL, INCLUDING SUBCONTRACTORS WHO MAY USE OR HANDLE HAZARDOUS OR TOXIC MATERIALS, ARE AWARE OF THE FOLLOWING GENERAL GUIDELINES REGARDING DISPOSAL AND HANDLING OF HAZARDOUS AND CONSTRUCTION WASTES:

    - PREVENT SPILLS.
    - USE PRODUCTS UP.
    - FOLLOW LABEL DIRECTIONS FOR DISPOSAL.
    - REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH.
    - RECYCLE WASTES WHENEVER POSSIBLE.
    - DO NOT POUR INTO WATERWAYS, STORM DRAINS OR ONTO THE GROUND
    - DO NOT POUR DOWN THE SINK, FLOOR DRAIN OR SEPTIC TANKS.
    - DO NOT BURY CHEMICALS OR CONTAINERS.
    - DO NOT BURN CHEMICALS OR CONTAINERS.
    - DO NOT MIX CHEMICALS TOGETHER.

13. ALL CONSTRUCTION AND DEMOLITION DEBRIS (C&DD) WILL BE DISPOSED OF IN AN OHIO EPA APPROVED C&DD LANDFILL AS REQUIRED BY OHIO REVISED CODE (ORC) 3714

SPILLS AND UNINTENDED RELEASES

1. SHOULD AN ACCIDENTAL SPILL OR RELEASE OCCUR, THE CONTRACTOR SHALL MEET THE REPORTING REQUIREMENTS OF 40 CFR PART 117 AND 40 CFR PART 302.

2. THE CONTRACTOR MUST MINIMIZE THE DISCHARGE OF HAZARDOUS SUBSTANCES WITH THE SITE'S STORM WATER DISCHARGES BY MEETING THE REQUIREMENTS OF THE CONSTRUCTION SWP3.

3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT, DURING ANY 24-HOUR PERIOD, STORM WATER DISCHARGES FROM THE CONSTRUCTION SITE DO NOT CONTAIN A HAZARDOUS SUBSTANCE EQUAL TO OR IN EXCESS OF REPORTABLE QUANTITIES.

4. THE CONTRACTOR MUST TAKE IMMEDIATE ACTION TO CONTAIN, REMOVE, AND DISPOSE OF ANY SPILLED MATERIAL IN THE MANNER SPECIFIED BY LOCAL, STATE, AND FEDERAL REGULATIONS AND BY THE MANUFACTURER OF THE SPILLED PRODUCT.

5. WITHIN THIRTY (30) MINUTES OF A SPILL GREATER THAN 1 GALLON OR ANY SPILL THAT CAUSES A SHEEN ON A WATERWAY, THE CONTRACTOR MUST REPORT TO AIRFIELD OPERATIONS AT (216) 265-6090. THE OBSERVED SHEEN SHALL BE REMOVED BY ABSORBENT MATERIALS. A VACUUM TRUCK OR OTHER APPROPRIATE MEANS. A-3

6. SPILLS GREATER THAN 25 GALLONS OR MORE THE CONTRACTOR MUST CONTACT OHIO EPA AT 1-800-282-9378, THE LOCAL FIRE DEPARTMENT AND THE LOCAL EMERGENCY PLANNING COMMITTEE (LEPC) AT (216) 443-5700 (DAY) OR (216)711-1365 (24-HR) WITHIN 30 MINUTES OF A SPILL.

SPECIFICATIONS

1. ALL WORK SPECIFIED AS AN ODOT ITEM SHALL BE GOVERNED BY THE CURRENT STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATION HANDBOOK. ALL OTHER ITEMS SHOULD CONFORM TO SPECIFICATIONS CONTAINED IN THE ODNR MANUAL – RAINWATER AND LAND DEVELOPMENT, CURRENT EDITION.

GENERAL CONSTRUCTION SEQUENCE

1. THE CONTRACTOR SHALL HOLD A PRE-CONSTRUCTION MEETING WITH ALL SUBCONTRACTORS TO REVIEW THE SWP3 AND POLLUTION PREVENTION MEASURES.

2. INSTALL TEMPORARY SIGNAGE AND TEMPORARY BARRICADES. SEE PHASING PLANS.

3. INSTALL ALL SEDIMENT CONTROL STRUCTURES PRIOR TO ANY EARTH DISTURBING ACTIVITIES.

4. ALL OTHER TEMPORARY SEDIMENT AND EROSION CONTROL ITEMS (I.E., SEDIMENT BASINS) SHALL BE INSTALLED AS SOON AS POSSIBLE BUT NO LATER THAN WITHIN 7 DAYS OF THE FIRST SOIL DISTURBANCE.

5. INSTALL TRENCH AND GROUND WATER CONTROL MEASURES AS NECESSARY TO ENSURE THAT NO DEWATERING ACTIVITIES RESULT IN TURBID OR POLLUTANT-LADEN DISCHARGES TO WATERS OF THE STATE.

6. BEGIN UTILITY AND PAVEMENT REMOVAL FOR ONLY THAT PHASE SCHEDULED FOR WORK WITHIN THE NEXT 14 DAYS, OTHERWISE STABILIZATION IS REQUIRED WITHIN 7 DAYS OF LAST ACTIVITY.

7. BEGIN INSTALLATION OF NEW UTILITIES AND UNDERGROUND STRUCTURES.

8. THE CONTRACTOR IS RESPONSIBLE TO ESTABLISH A BY-PASS PUMPING SYSTEM IN ORDER TO INSTALL DEEP MANHOLES WITHOUT SHUTTING DOWN THE EXISTING STORM SEWER. THE CONTRACTOR SHALL PLUG THE DOWNSTREAM SIDE OF THE UPSTREAM MANHOLE AND PUMP TO THE NEAREST DOWNSTREAM MANHOLE.

9. BEGIN EXCAVATION, GRADING AND COMPACTION FOR PAVEMENT SUBBASE. STABILIZE ALL PREPARED EARTH AREAS THAT WILL NOT BE WORKED ON WITHIN THE NEXT 14 DAYS WITH AGGREGATE COURSES OR FILTER FABRIC WITHIN 7 DAYS OF LAST ACTIVITY AT NO ADDITIONAL COST TO OWNER.

10. INSTALLATION OF NEW PAVEMENT.

11. BEGIN FINAL GRADING OPERATIONS.

12. WITHIN 7 DAYS AFTER REACHING FINAL GRADE, BEGIN SEEDING, OR SODDING OPERATIONS.

13. SOD SHALL BE PLACED WITHIN 20' OF ALL TAXIWAY AND RUNWAY PAVEMENT, AND ALL REMAINING AREAS SHALL BE SEEDED AND MULCHED UNLESS SPECIFIED OTHERWISE.

14. AFTER PERMANENT STORM WATER STRUCTURES ARE OPERATIONAL AND THE SITE IS SUFFICIENTLY STABLE, THE TEMPORARY SEDIMENT AND EROSION CONTROL ITEMS SHALL BE REMOVED. ALL SEDIMENT SHALL BE REMOVED FROM THE STORM SEWER AND DISPOSED OF IN A DESIGNATED LOCATION PREVIOUSLY APPROVED BY THE LOCAL REGULATORY AUTHORITIES AND RESIDENT ENGINEER.

15. AT COMPLETION OF WORK, THE CONTRACTOR SHALL REMOVE FROM THE SITE AND DISPOSE OF DEBRIS AND WASTE MATERIALS RESULTING FROM HIS ACTIVITIES. THE CONTRACTOR SHALL ALSO THOROUGHLY CLEAN ALL PAVEMENT, CLEANOUTS, PIPES AND STRUCTURES TO REMOVE DEBRIS AND DIRT ACCUMULATED AS A RESULT OF THE CONSTRUCTION AND OPEN ALL GUTTERS SO THAT FREE DRAINAGE IS OBTAINED.

Revisions	Date	Description	By
A-3	03/19/24	NOTE REVISED	MSI

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

STATE OF OHIO – LANCE GRAHAM – RAINMAKER – E-67035 – REGISTERED PROFESSIONAL ENGINEER

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT

Sheet Title: STORMWATER POLLUTION PREVENTION NOTES 2

Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

Michael Baker INTERNATIONAL

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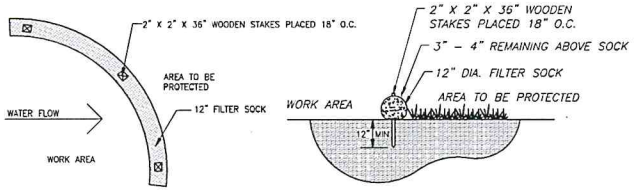
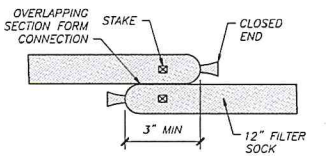




FILTER SOCK CONNECTION / ATTACHMENT DETAIL

INSTALLATION

1. FILTER SOCKS SHALL BE PLACED ON A LEVEL LINE ACROSS SLOPES AND AT LEAST 5 FT. FROM THE TOE OF THE SLOPES.
2. FILTER SOCKS SHOULD LIE PERPENDICULAR TO FLOWS, WITH ENDS OF THE FILTER SOCK POINTING UPSLOPE.

INSPECTION AND MAINTENANCE

1. INSPECT FILTER SOCKS WEEKLY AND AFTER EACH SIGNIFICANT RAIN (½" IN 24 HRS), MAINTAINING FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.
2. REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER SOCKS WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE PRACTICE.
3. DRIVING OVER FILTER SOCKS IS NOT RECOMMENDED. IF THIS SHOULD OCCUR, THE SOCK SHALL BE INSPECTED AND REPAIRED IMMEDIATELY.
4. WHERE THE FILTER SOCK DETERIORATES OR FAILS, IT SHALL BE REPAIRED OR REPLACED.
5. FILTER SOCKS SHOULD BE REPLACED IF PONDING BECOMES EXCESSIVE.

REMOVAL

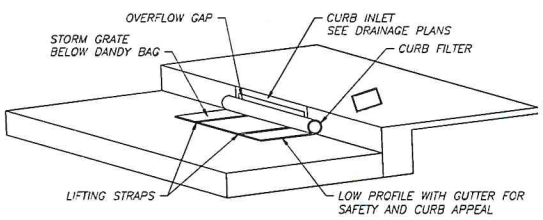
1. REMOVE ACCUMULATED SEDIMENT.
2. CUT OPEN FILTER SOCK, AND DISPERSE COMPOST MATERIAL ON SITE, AS DETERMINED BY RESIDENT ENGINEER.
3. REMOVE MESH NETTING AND STAKES ENTIRELY, AND DISPOSE OF IN THE PROPER WASTE OR RECYCLING FACILITY.

ADDITIONAL NOTES

1. ALL MATERIAL TO MEET FILTER SPECIFICATIONS.
2. FILTER MEDIA FILL TO MEET APPLICATION REQUIREMENTS.

FILTER SEDIMENT CONTROL

SCALE: NTS



CURB BAG INLET PROTECTION NOTES

1. INSTALL EMPTY CURB BAG OVER THE GRATE AND ENSURE PROPER FIT. TUCK ENCLOSURE FLAP INSIDE TO COMPLETELY ENCLOSE THE GRATE. HOLDING THE LIFTING STRAPS (DO NOT RELY ON THE LIFTING STRAPS TO SUPPORT THE ENTIRE WEIGHT OF THE GRATE), PLACE THE GRATE INTO ITS FRAME (STREET SIDE FIRST), THEN LOWER BACK EDGE WITH DAM INTO PLACE. WHEN PROPERLY INSTALLED, THE DANDY CURBBAG SHOULD BE PARTIALLY BLOCKING THE CURB HOOD.
2. REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM THE SURFACE AND VICINITY OF THE DANDY BAG AFTER EACH STORM EVENT. REMOVE SEDIMENT THAT HAS ACCUMULATED WITHIN THE CONTAINMENT AREA OF THE DANDY BAG AS NEEDED.
3. UPON PROJECT COMPLETION OR REMOVAL OF THE STORM CATCH BASIN OR GRATE, REMOVE THE DANDY BAG AND PROPERLY RECYCLE OR DISPOSE OF THE BAG IN ACCORDANCE WITH APPLICABLE REGULATIONS.

DANDY BAG CURB INLET PROTECTION

SCALE: NTS

INSTALLATION

1. CONCRETE WASH OUT PIT LOCATION(S), TYPES AND SIZE(S) SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE RESIDENT PROJECT REPRESENTATIVE. THE DIMENSIONS AND VOLUME SHOULD BE SUFFICIENT TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
2. THE CONCRETE WASH OUT PIT SHALL BE CONSTRUCTED WITH NO POTENTIAL FOR DISCHARGE.
3. CLEAR THE AREA OF ALL VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL PRIOR TO INSTALLING THE CONCRETE WASH OUT PIT.
4. FIELD TILE OR OTHER SUBSURFACE DRAINAGE STRUCTURES WITHIN 10 FT. OF THE CONCRETE WASH OUT PIT SHALL BE CUT AND PLUGGED.
5. THE VISQUEEN LINER SHALL BE FREE OF TEARS OR HOLES THAT WOULD ALLOW THE WASH WATER TO ESCAPE.
6. IF THE CONCRETE WASH OUT FACILITY IS NOT WITHIN VIEW OF THE CONCRETE POUR LOCATION, SIGNAGE WILL BE NEEDED TO DIRECT THE TRUCK DRIVERS.

INSPECTION AND MAINTENANCE

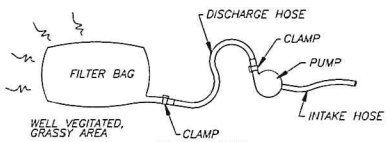
1. THE CONCRETE WASH OUT PIT SHALL BE MAINTAINED TO ENSURE THAT CONCRETE WASH WATER IS NOT ALLOWED TO FLOW TO STREAMS, DITCHES, STORM DRAINS, OR ANY OTHER WATER CONVEYANCES.
2. THE CONCRETE WASH OUT PIT SHALL BE INSPECTED DAILY AND AFTER EACH SIGNIFICANT RAIN EVENT (1/2" IN 24 HRS) TO IDENTIFY ANY PLASTIC LININGS AND SIDEWALLS THAT HAVE BEEN DAMAGED BY CONSTRUCTION ACTIVITIES. THE INSPECTOR SHALL ALSO DETERMINE WHETHER THE PIT HAS BEEN FILLED TO OVER 75 PERCENT CAPACITY.
3. PRIOR TO HEAVY RAINS, THE LIQUID LEVEL IN THE PIT SHALL BE LOWERED OR THE PIT SHALL BE COVERED TO AVOID OVERFLOW DURING THE RAIN STORM.
4. WHEN THE WASH OUT PIT HAS BEEN FILLED TO OVER 75 PERCENT OF ITS CAPACITY, THE WASH WATER SHOULD BE VACUUMED OFF OR ALLOWED TO EVAPORATE TO AVOID OVERFLOWS.
5. AFTER THE PIT HAS BEEN USED AND THE WASH WATER HAS EVAPORATED OR HAS BEEN VACUUMED OFF, THE REMAINING HARDENED SOLIDS SHALL BE BROKEN UP AND REMOVED FROM THE PIT.
6. MATERIAL COLLECTED IN THE CONCRETE WASH OUT PIT SHALL BE PROPERLY DISPOSED OF AT AN APPROVED DISPOSAL FACILITY. DISPOSAL SHALL BE SCHEDULED AS NEEDED.
7. IF EMPTYING OF THE PIT RESULTS IN DAMAGE TO THE FILTER SOCKS OR VISQUEEN LINER, THE PIT WILL NEED TO BE REPAIRED AND RELINED WITH NEW PLASTIC.
8. IN THE EVENT OF A LEACHATE OUTBREAK, MEASURES MUST BE TAKEN TO ISOLATE THE DISCHARGE FOR COLLECTION AND PROPER DISPOSAL. INVESTIGATIVE MEASURES AND CORRECTIVE ACTIONS MUST BE IMPLEMENTED TO IDENTIFY AND ELIMINATE THE SOURCE OF ALL LEACHATE OUTBREAKS.

REMOVAL

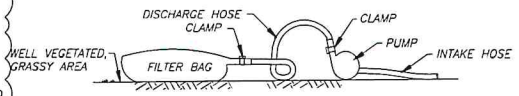
1. REMOVE ACCUMULATED SOLIDS FROM THE PIT, AND DISPOSE OF AT AN APPROVED DISPOSAL FACILITY.
2. CUT OPEN FILTER SOCK, AND DISPERSE COMPOST MATERIAL ON SITE, AS DETERMINED BY RESIDENT ENGINEER. IF COMPOST HAS BECOME CONTAMINATED, DISPOSE OF IN THE PROPER WASTE OR RECYCLING FACILITY.
3. REMOVE MESH NETTING, STAKES AND VISQUEEN LINER ENTIRELY, AND DISPOSE OF IN THE PROPER WASTE OR RECYCLING FACILITY
4. RESTORE PIT AREA AND STABILIZE ANY EXPOSED SOIL.

CONCRETE WASHOUT PIT

SCALE: NTS



PLAN VIEW



ELEVATION VIEW

NOTES:

1. FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
2. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.
3. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.
4. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.
5. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.
6. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.
7. FILTER BAGS ARE DESIGNED TO FILTER WATER FROM WORK AREAS PRIOR TO DISCHARGE.

PUMPED WATER FILTER BAG

SCALE: NTS

Revisions	Date	Description	By
A-3	03/19/24	PLAN REVISIONS	MSI

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT

Sheet Title: STORMWATER POLLUTION PREVENTION DETAILS

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MSI	MSI	LGW	LGW

Michael Baker INTERNATIONAL

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AS SHOWN	198348

Date:	Sheet:
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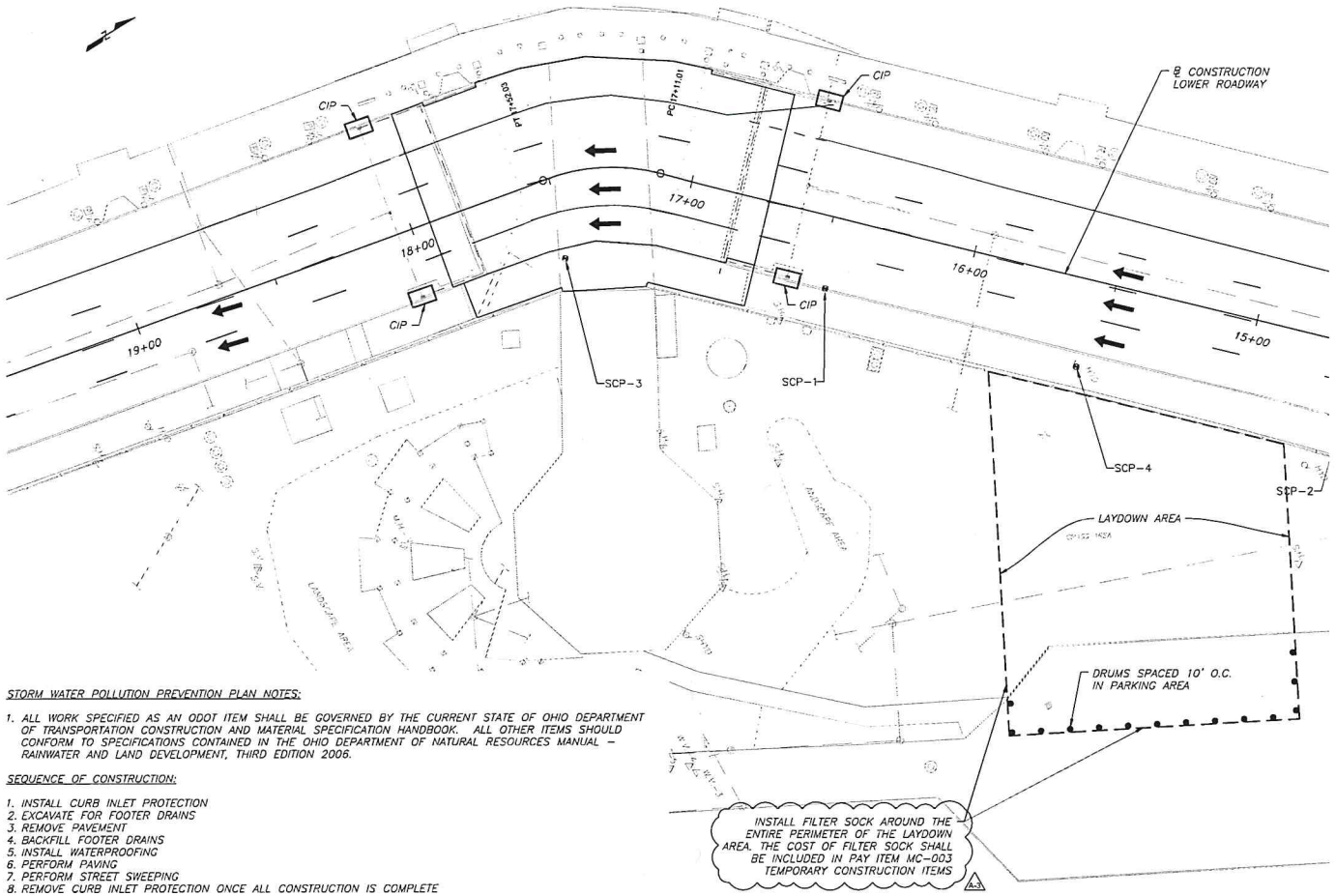
Addendum #3 – File No. 19-24 RTA Tunnel Membrane Replacement



LEGEND

CURB INLET PROTECTION (CIP)

STORM WATER POLLUTION PREVENTION PLAN NOTES:

1. ALL WORK SPECIFIED AS AN ODOT ITEM SHALL BE GOVERNED BY THE CURRENT STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATION HANDBOOK. ALL OTHER ITEMS SHOULD CONFORM TO SPECIFICATIONS CONTAINED IN THE OHIO DEPARTMENT OF NATURAL RESOURCES MANUAL – RAINWATER AND LAND DEVELOPMENT, THIRD EDITION 2006.

SEQUENCE OF CONSTRUCTION:

1. INSTALL CURB INLET PROTECTION
2. EXCAVATE FOR FOOTER DRAINS
3. REMOVE PAVEMENT
4. BACKFILL FOOTER DRAINS
5. INSTALL WATERPROOFING
6. PERFORM PAVING
7. PERFORM STREET SWEEPING
8. REMOVE CURB INLET PROTECTION ONCE ALL CONSTRUCTION IS COMPLETE

REQUIREMENTS FOR CONTROLS OF OTHER WASTES:

1. SOLID OR LIQUID WASTE, INCLUDING BUILDING MATERIALS OR THEIR PACKAGING, SHALL BE PROPERLY DISPOSED OF AND SHALL NOT BE DISCHARGED IN STORMWATER RUNOFF.
2. CONCRETE TRUCKS ARE NOT PERMITTED TO WASH OUT DIRECTLY INTO STORM SEWERS, STREAMS OR DRAINAGE CHANNELS.
3. OFF-SITE TRACKING OF SEDIMENTS BY CONSTRUCTION VEHICLES MUST BE REMOVED BY SWEEPING.
4. CONTAMINATED SOILS OR SOILS WHERE CONSTRUCTION SITE CHEMICALS HAVE BEEN SPILLED MUST BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
5. STORM WATER THAT COMES IN CONTACT WITH CONTAMINATED SOILS, OR SOLID AND INDUSTRIAL WASTE MUST BE COLLECTED AND DISPOSED OF AS WASTEWATER.
6. FUEL TANKS AND DRUMS OR OTHER CONTAINERS HOLDING CONSTRUCTION SITE CHEMICALS MUST BE STORED WITHIN A DIKED AREA.

Revisions	Date	Description	By
A-3	03/19/24	ADDED LEADER	MSI

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

STATE OF OHIO
LANCE GRAHAM WAHAMAKER
E-67035
REGISTERED
PROFESSIONAL ENGINEER

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT

Sheet Title: STORMWATER POLLUTION PREVENTION PLAN

Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

Michael Baker INTERNATIONAL

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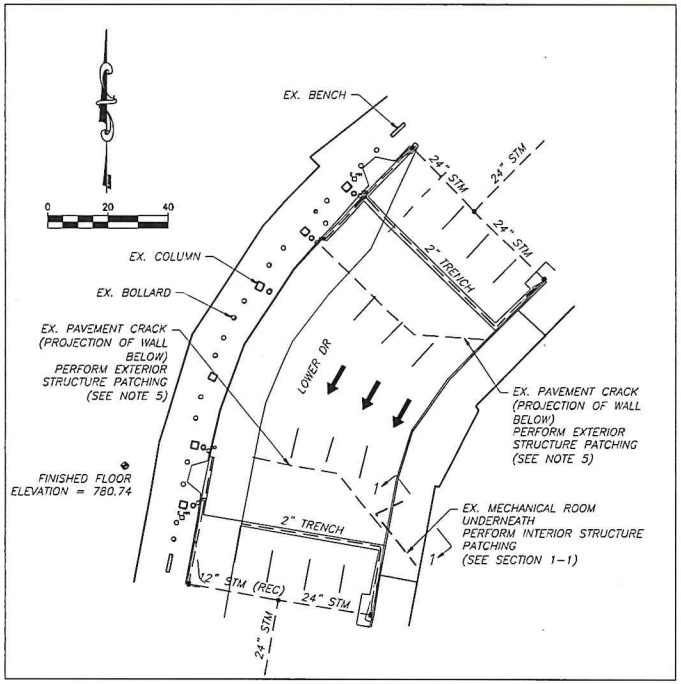
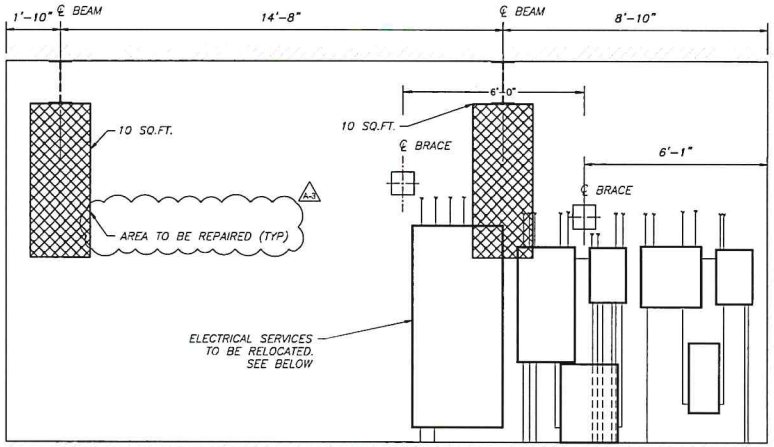


PLAN

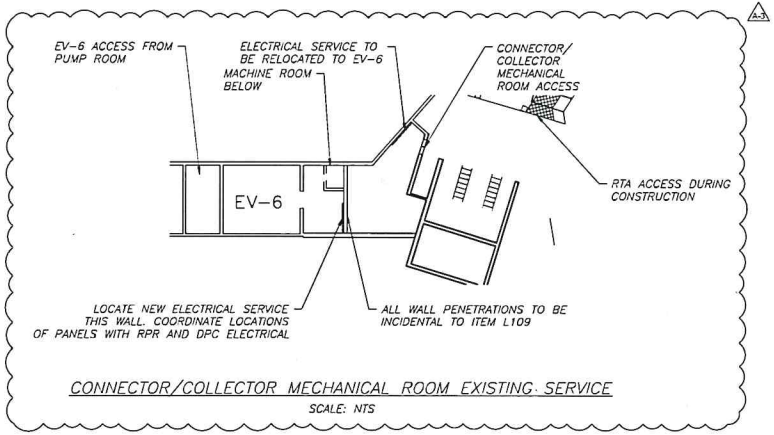
SCALE: 1" = 20'



SECTION 1-1

MECHANICAL ROOM WALL PATCHING DETAIL

SCALE: NTS



CONNECTOR/COLLECTOR MECHANICAL ROOM EXISTING SERVICE

SCALE: NTS

WALL PATCHING NOTES:

1. THE CONTRACTOR TO FOLLOW ODOT ITEM 519 – PATCHING CONCRETE STRUCTURES SPECIFICATIONS WHEN PERFORMING THE PATCHING WORK.
2. THE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. NO DETAILED INSPECTION WAS PERFORMED. PATCH AREAS TO BE FIELD LOCATED BY THE CONTRACTOR AND APPROVED BY THE RESIDENT PROJECT REPRESENTATIVE (RPR). THE CONTRACTOR WILL BE PAID FOR THE ACTUAL SQUARE FOOT AREA PATCHED.
3. THE CONTRACTOR TO PROVIDE TEMPORARY SHORING UNDERNEATH THE BEAMS FOR THE DURATION OF WALL PREPARATION AND PATCHING WORK.
4. PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCED STEEL. ACCEPTABLE METHODS INCLUDE:
   – INTERIOR: VACUUM ABRASIVE BLASTING;
   – EXTERIOR: HIGH PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.
5. ADDITIONAL QUANTITIES ARE INCLUDED IN THIS PACKAGE FOR USE AS DIRECTED BY THE RPR TO ALLOW FOR ADDITIONAL EXTERIOR WALL PATCHING WORK ASSOCIATED WITH WALL WATERPROOFING APPLICATION. NO INSPECTION OF THE WALL HAS BEEN PERFORMED.
6. UNLESS NOTED OTHERWISE, ALL DETAILS ARE DRAWN NOT TO SCALE.

ELECTRICAL SERVICE RELOCATION NOTES:

1. THE EXISTING 600 AMP ELECTRICAL SERVICE CURRENTLY LOCATED IN THE CONNECTOR/COLLECTOR MECHANICAL ROOM IS TO BE RELOCATED TO ELECTRICAL VAULT EV-6. ALL OF THE AFFECTED SERVICE PANELS AND TRANSFORMERS ARE INCLUDED IN ITEM L109.
2. ACCESS TO EV-6 WILL BE THROUGH THE PUMP ROOM LOCATED ACROSS THE LOWER ROADWAY FROM THE CONNECTOR/ COLLECTOR MECHANICAL ROOM.
3. THE EXISTING SERVICE SKETCH WAS CREATED FROM THE AVAILABLE RECORD DRAWINGS,
4. THE PANEL SCHEDULE SKETCH WAS CREATED FROM AVAILABLE INFORMATION ON THE SERVICE PANELS. THE CONTRACTOR IS TO VERIFY THE LOCATION AND AFFECTED CIRCUITS PRIOR TO THE SERVICE RELOCATION TO EV-6.
5. THE CONTRACTOR SHALL ALLOW A MINIMUM OF 120 HOURS OF CREW TIME TO RESEARCH THE AFFECTED FACILITIES ASSOCIATED WITH THE PANELS/SERVICES TO BE RELOCATED. COSTS FOR RESEARCHING THE CURRENT CIRCUITRY TO BE INCIDENTAL TO ITEM L109.
6. SHUTDOWNS ARE LIMITED TO 4 HOURS/NIGHT AND ARE TO BE PERFORMED BETWEEN THE HOURS OF 0000 AND 0400, MILITARY TIME.
7. ALL COSTS, INCLUDING CREW TIME FOR RESEARCH FOR SERVICE RELOCATION, IS TO BE INCIDENTAL TO ITEM L109-7.4, INSTALLATION OF EQUIPMENT IN EXISTING VAULT

Revisions	Date	Description	By
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CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

STATE OF OHIO
KIRAN C. PATEL
E-051670
REGISTERED PROFESSIONAL ENGINEER

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT

Sheet Title: MECHANICAL ROOM WALL REPAIR

Designed:	Drawn:	Checked:	Approved:
MM	MM	KCP	KCP

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Cleveland, Ohio
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Scale:	Project No.:
AS SHOWN	198348
Date:	Sheet:
FEBRUARY 2024	C-25

DP–CC					
TEXT ON PANEL	PAPER SCHEDULE	120	277	PAPER SCHEDULE	TEXT ON PANEL
MDP	BRK #1 600 AMP			BRK #2 200 AMP	HCP
	3 PHASE FEED MDP	1	2	3 PHASE FEED HCP	
		3	4		A-3
	BRK #3 100 AMP	5	6	BRK #4 60 AMP *	ELEVATOR *
	3 PHASE FEED SPARE			3 PHASE FEED ELEV *	
AC–5	BRK #6 30 AMP			BRK #6 30 AMP	
	3 PHASE FEED AC–5			3 PHASE FEED AC–4	

LEM–2					
TEXT ON PANEL	PAPER SCHEDULE	120	277	PAPER SCHEDULE	TEXT ON PANEL
FIRE ALARM	ELEVATOR PIT LIGHTS & PLUGS/PUMP ROOM LIGHTS	1 20A	2 20A	(EM) LIGHTS CONNECTOR (EN) ESCALATOR #13 AND 14 PIT (EO) LIGHTS AND PLUGS	F/A TEMP/ESCALATOR PIT LIGHTS
HIGH LIGHTS	CENTER CAN LIGHTS	3 20A	4 20A	SEMANS PANELS EAST WALLS	SIEMANS PANELS EAST WALL
RTA LIGHTING	ELEVATOR CAR LIGHTS	5 20A	6 20A	SUMP PUMP ALARM	SUMP PUMP ALARM
25	NORTH ELEC. DOOR OPENER COLLECTOR	7 20A	8 20A	CONTROL PANEL #2 F.A.	CONTROL PANEL #2 F.A.
23	SOUTH ELEC. DOOR OPENER COLLECTOR	11 20A	10 20A	FIELD CABINET #6	FIELD CABINET #6
RTA TRACK LIGHTS	(EM) LIGHTS CONNECTOR TEMP WALKWAY OUTLETS DOUBLED UP ON BRKRS 9 & 11	9 20A	12 20A	EMERGENCY LIGHTS CONNECTOR	RTA TRACK LIGHTS

HEM–2					
TEXT ON PANEL	PAPER SCHEDULE	120	277	PAPER SCHEDULE	TEXT ON PANEL
SUMP PUMP	SUMP PUMPS #23 AND #25	30A	30A	15 KVA TRANSFORMER FEED FOR PANEL HEM SP	TRANS
CENTRIC PAK #1	SPARE	7 20A	8 20A	LIGHTS BY ELEVATOR	
LIGHTS–TEMPORARY WALKWAY	LIGHTS–TEMPORARY WALKWAY	11 20A	10 20A	LIGHTS BY ELEVATOR	HEM SP TRIPPED 10–29–98
LIGHTS–TEMPORARY WALKWAY	LIGHTS–TEMPORARY WALKWAY	9 20A	12 20A	"ONE" FIXTURE ELEVATOR	

LCP–3			
BASE PLUG AT FLOOR BOXES–SOUTH	1 20A	2 20A	BAGGAGE ATM AND LOTTO
WATATA CABINET	3 20A	4 20A	BASE PLUG AND FLOOR BOXES–NORTH SIDE NEAR ESCALATOR 4
MECHANICAL ROOM LIGHTS	5 20A	6 20A	BASE PLUGS EAST OF ESCALATORS
BASE PLUGS EAST OF ESCALATOR	7 20A	8 20A	#4–5 PLUGS
#3 "7" PLUGS LIGHTS IN MECHANICAL ROOM	9 20A	10 20A	4 BASE PLUGS ON COLUMN V
RECEPTACLE FOR PRESSURE WASHER	11 20A	12 20A	CONNECTOR AND 2 PLUG COLLECTOR

HCP–3							
TEXT ON PANEL	PAPER SCHEDULE EDITS	PAPER SCHEDULE	120	277	PAPER SCHEDULE	PAPER SCHEDULE EDITS	TEXT ON PANEL
	SPARE #1	BRK #1–50 AMP 3–PHASE FEED TRANS 30 KVA	1	2	BRK #2–60 AMP 3–PHASE FEED ESC #14	#2 3 POLE CKT 36	
	SPARE #1	BRK #1–50 AMP 3–PHASE FEED TRANS 30 KVA	3	4	BRK #2–60 AMP 3–PHASE FEED ESC #14	#2 3 POLE CKT 38	
	SPARE #1	BRK #1–50 AMP 3–PHASE FEED TRANS 30 KVA	5	6	BRK #2–60 AMP 3–PHASE FEED ESC #14	#2 3 POLE CKT 40	
	#3 3 POLE CKT 30	BRK #3–60 AMP 3–PHASE FEED ESCALATOR #13	7	8	BRK #4–15 AMP 3–PHASE SPARE	#4 3 POLE	
	#3 3 POLE CKT 32	BRK #3–60 AMP 3–PHASE FEED ESCALATOR #13	9	10	BRK #4–15 AMP 3–PHASE SPARE	#4 3 POLE	
	#3 3 POLE CKT 34	BRK #3–60 AMP 3–PHASE FEED ESCALATOR #13	11	12	BRK #4–15 AMP 3–PHASE SPARE	#4 3 POLE	
	6	30 AMP FEED LOWER WINDOW HEATER	13	14	BRK #5–30 AMP 3–PHASE FEED SUMP PUMPS 35 & 36	#5 CKT 16	SUMP PUMP UNDER ESCALATOR
	7	30 AMP FEED LOWER WINDOW HEATER	15	16	BRK #5–30 AMP 3–PHASE FEED SUMP PUMPS 35 & 36	#5 CKT 18	SUMP PUMP
	8	30 AMP FEED LOWER WINDOW HEATER	17	18	BRK #5–30 AMP 3–PHASE FEED SUMP PUMPS 35 & 36	#5 CKT 20	
CKT–1	1	HI BAY LGT COLLECTOR VIA CONTACTOR #6 21 OF 42 LIGHTS	19	20	WALL WASHER FIXTURE N SIDE CONNECTOR VIA CONTACTOR 3	2	RED TAPE C3
CKT–3	3	HI BAY LGT COLLECTOR VIA CONTACTOR #6 21 OF 42 LIGHTS	21	22	WALL WASHER FIXTURE N SIDE CONNECTOR VIA CONTACTOR 3	4	RED TAPE C3
SOUTH 2X2 RTA LIGHTS RED TAPE C–1	5	LIGHTING MAIN AREA CONNECTOR CIRCUIT 5 & 11 VIA CONTACTOR 1	23	24	LTG CIRS BETWEEN ESCALATOR CONNECTOR TO TERMINAL CIR 7 & 9 VIA CONTACTOR 2	6	CENTER 2X2 LIGHT NORTH AND SOUTH RED TAPE C1
RTA: LIGHTS NORTH–CENTER 4 STRIP LIGHTS RED TAPE C–2	7	LGT MAIN AREA CONN CIR 7 & 9 VIA CONT 2	25	26	LTG CIRS BETWEEN ESCALATOR CONNECTOR TO TERMINAL	8	SOUTH RECESSED RED TAPE C2
RTA: LIGHTS RECESSED–SOUTH RED TAPE C–2	9	LTG MAIN AREA CONN CIR 7 & 9 VIA CONT 2	27	28	LTG CIRS BETWEEN ESCALATOR CONNECTOR TERMINAL *	10 *	RECEPTACLES THIS ROOM RED TAPE C–1 *
RTA: ESCALATORS EAST AND NORTH RED RAPE C–1	11	LTG MAIN AREA CONN CIR 5 & 11 CONT 1 CIR 7 & 9 CONT 2	29	30	HTR ON SOUTH SIDE OF COLLECTOR WAS CIR #33 *	12 *	A-3
	13	12 MERC VAPER LIGHTS VIA CONTACTOR #5 OF SIDES OF UPPER COLLECTOR WAS CIR #37	31	32	SPARE *	14 *	
	15	SIGN LIGHTING VIA CONTACTOR #4	33	34	HTR ON NORTH SIDE OF COLLECTOR WAS CIR #28 *	16 *	
	CIR–17	8 PLANTER LIGHTS VIA CONTACTOR #4	35	36	SPARE *	18 *	
		HTR ON SOUTH SIDE OF COLLECTOR WAS CIR #31 *	37	38	HTR ON NORTH SIDE OF COLLECTOR WAS CIR #28		HTR
	A-3	HTR ON SOUTH SIDE OF COLLECTOR WAS CIR #27 *	39	40	HTR ON NORTH SIDE OF COLLECTOR	WAS CIR #22	HTR
		HTR ON SOUTH SIDE OF COLLECTOR WAS CIR #29	41	42	HTR ON NORTH SIDE OF COLLECTOR	WAS CIR #24	HTR

NOTES:
* OUT OF SERVICE

CONNECTOR/COLLECTOR MECHANICAL ROOM EXISTING SERVICE PANELS

Revisions	Date	Description	By
A-3	03/19/24	PLAN REVISIONS	MSI

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

STATE OF OHIO — LANCE GRAHAM WAHAMAKER E-67035 REGISTERED PROFESSIONAL ENGINEER

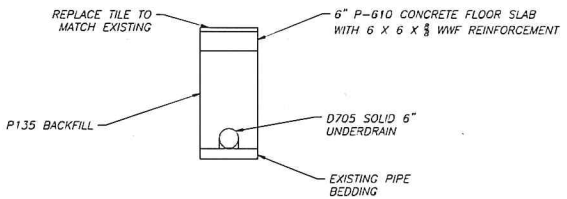
Project Title: RTA TUNNEL MEMBRANE REPLACEMENT
Sheet Title: CONNECTOR-COLLECTOR MECHANICAL ROOM EXISTING SERVICE PANELS

Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

Michael Baker INTERNATIONAL

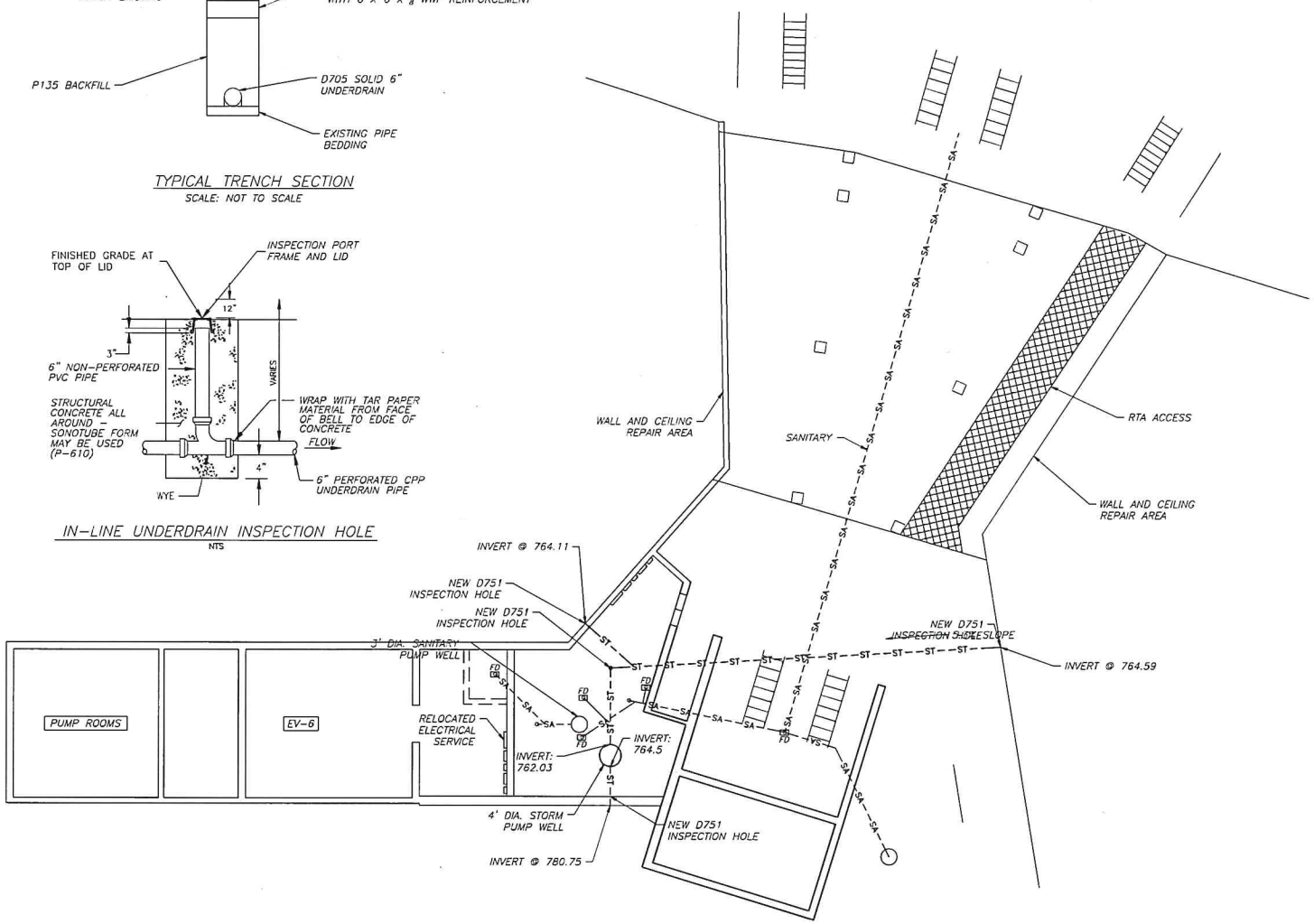
Scale:	Project No.:
AS SHOWN	198348
Date:	Sheet:
FEBRUARY 2024	C-26

Addendum #3 – File No. 19-24 RTA Tunnel Membrane Replacement



TYPICAL TRENCH SECTION
SCALE: NOT TO SCALE

IN-LINE UNDERDRAIN INSPECTION HOLE
NTS



PLUMBING MODIFICATIONS PLAN
SCALE: 1" = 10'

LEGEND

—SA— – SANITARY PIPING

—ST— – STORM PIPING

NOTES:
1. LOCATIONS BASED ON RECORD DRAWINGS. CONTRACTOR TO VERIFY LOCATIONS IN THE FIELD.
2. CONTRACTOR TO INSPECT AND LOCATE ALL STORM PIPING SHOWN ON THIS DRAWING
3. THE EXISTING UNDERDRAINS ARE 6" CAST IRON PER RECORD DRAWINGS.
4. SEE ITEM MC-091 SEWER CLEANING AND CCTV FOR SPECIFIC REQUIREMENTS.
5. A QUANTITY OF 150 LINEAR FEET OF SOLID 6" UNDERDRAIN HAS BEEN ADDED TO D705 IN THE EVENT THAT THE EXISTING PIPING WILL NEED TO BE REPLACED.
6. A QUANTITY OF 150 LINEAR FEET HAS BEEN ADDED TO ITEM P101-5.8 IN THE EVENT THAT THE PIPE WILL NEED TO BE REMOVED.

Revisions	Date	Description	By
A-3	03/19/24	NEW SHEET	MSI

NOTE: NEW SHEET ADDED FOR ADDENDUM A-3.

CLEVELAND HOPKINS INTERNATIONAL AIRPORT
CLEVELAND, OHIO

STATE OF OHIO – LANCE GRAHAM MANMAKER E-67035 REGISTERED PROFESSIONAL ENGINEER

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT
Sheet Title: PLUMBING MODIFICATIONS

Designed:	Drawn:	Checked:	Approved:
MSI	MSI	LGW	LGW

Michael Baker INTERNATIONAL

Scale:	Project No.:
AS SHOWN	198348
Date:	Sheet:
FEBRUARY 2024	C-27

Cleveland Airport System

RTA Tunnel Membrane Replacement

Pre-Bid Conference

February 23, 2024

CLEVELAND AIRPORT SYSTEM

Pre-Qualification Meeting Agenda

- **Introduction..... Lori Birschbach-Tober**
  - **Project General Scope..... MBI**
  - **Safety ..... Alyssa Biondo**
  - **Security ..... Jeff Allhouse**
  - **Operations ..... Zachary Randall**
  - **Building Maintenance..... Robert Henderson**
  - **Electrical..... Eric Schuler**
  - **DBE Requirements..... Rosita Turner**
  - **Questions and Answers**

Bid Opening: Friday, March 22, 2024 at 12:00 noon local time

CLEVELAND AIRPORT SYSTEM

Questions

Please send all future questions to:

Jules Gilliam, Buyer

Question Cutoff:

Friday, March 1, 2024 at 12:00 Noon

Email questions to both: Purchasing@city.clevelandohio.gov and JGilliam@clevelandohio.gov

Fax (216) 664-2271

Room 128, City Hall

Cleveland, OH. 44114

Ordinance

Ordinance No. 1365-2023

CLEVELAND
AIRPORT SYSTEM

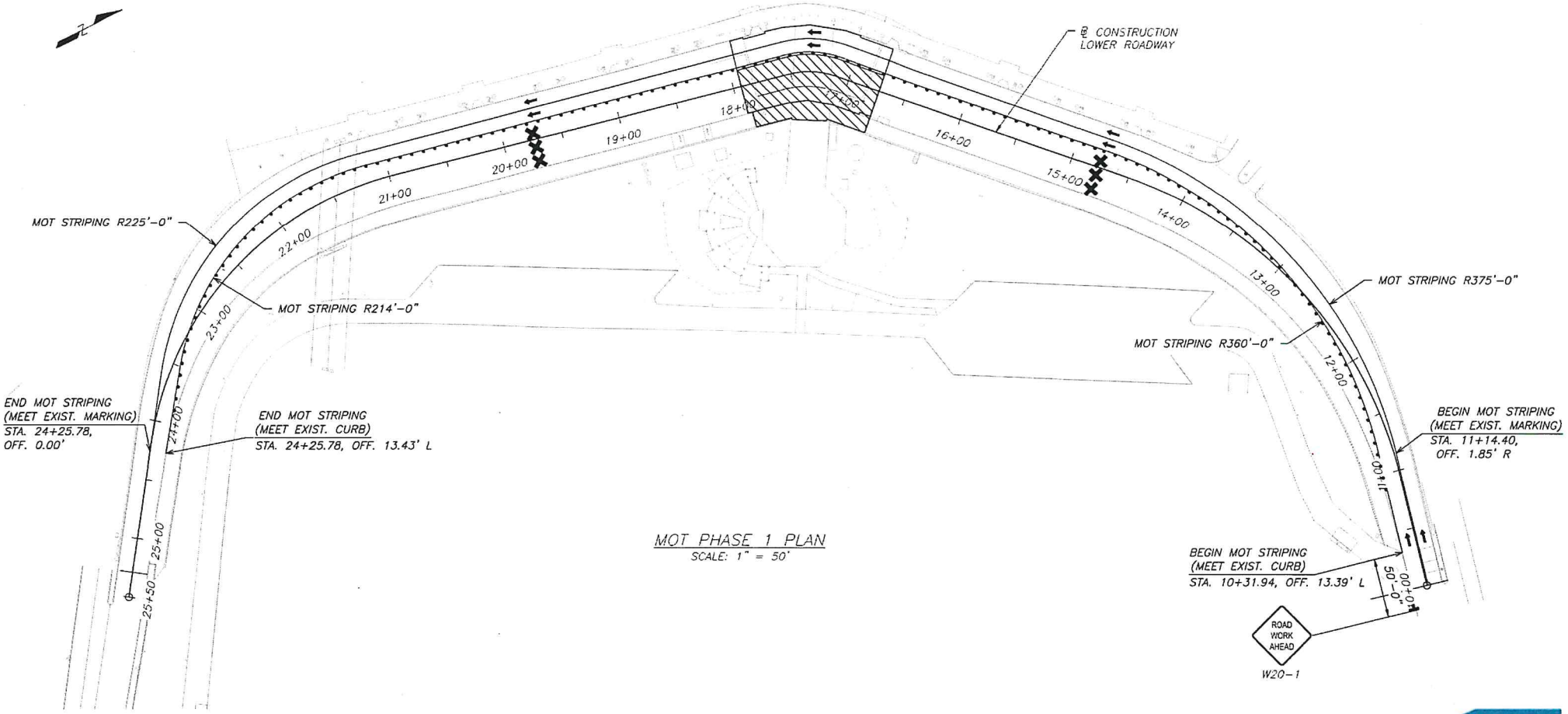
Project Overview

- The project includes, but is not limited to, the following elements.
    - Replacement of the RTA Tunnel Waterproofing Membrane
    - Replacement of the RTA Tunnel footer drains
    - Repair of the Connector/Collector concrete wall.
    - Plumbing Modifications within the Connector/Collector Mechanical Room.

Project Phasing Overview

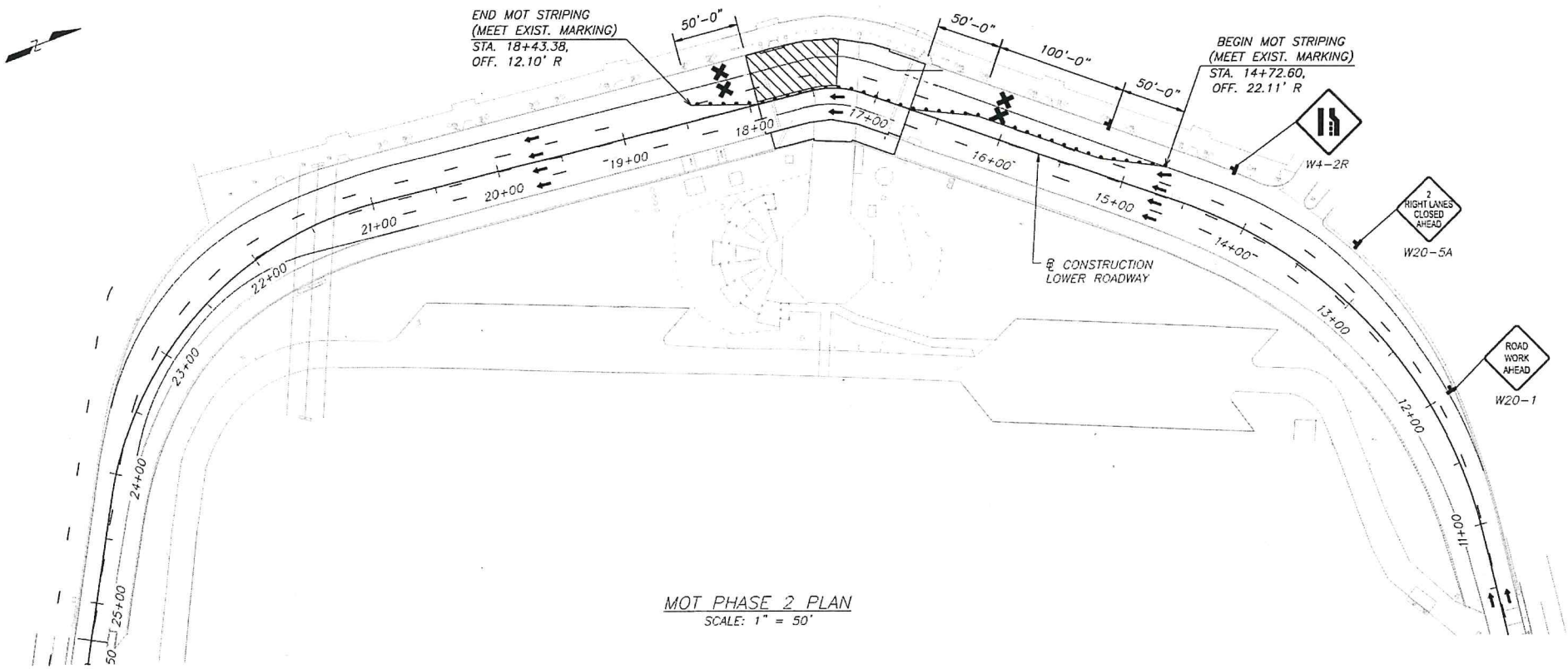
- It is anticipated that the project will be constructed in 3 phases.
- Phase 1 will be the largest phase, consisting of the west side of the tunnel.
- Phase 2 will be the south half of the remaining tunnel area to be repaired
- Phase 3 will be the remaining tunnel area.
- Phase 4 will be the installation of the 1" surface course.
- Work on the wall repair and plumbing modifications are not included in any particular phase.
- All phases must be completed in 120 days.

Phase 1 Overview



CLEVELAND AIRPORT SYSTEM

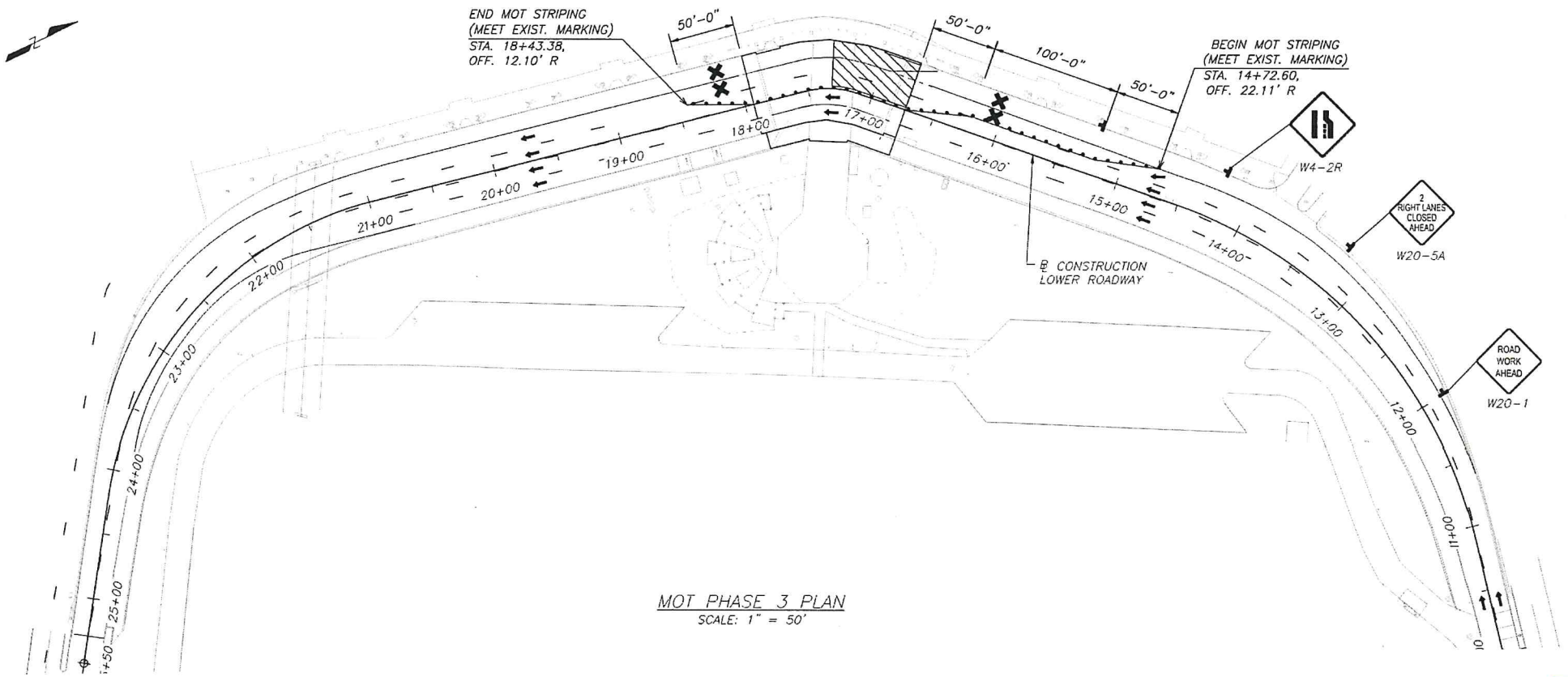
Phase 2 Overview



MOT PHASE 2 PLAN
SCALE: 1" = 50'

CLEVELAND AIRPORT SYSTEM

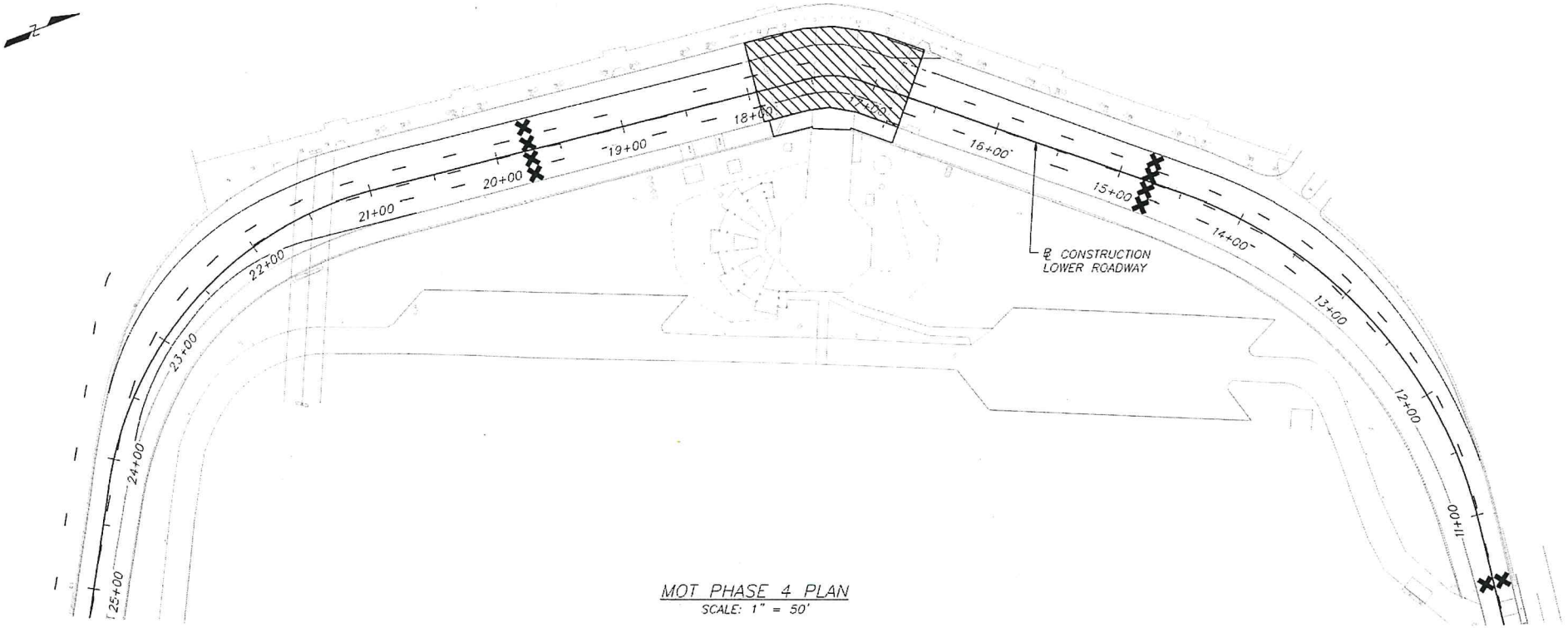
Phase 3 Overview



MOT PHASE 3 PLAN
SCALE: 1" = 50'

CLEVELAND AIRPORT SYSTEM

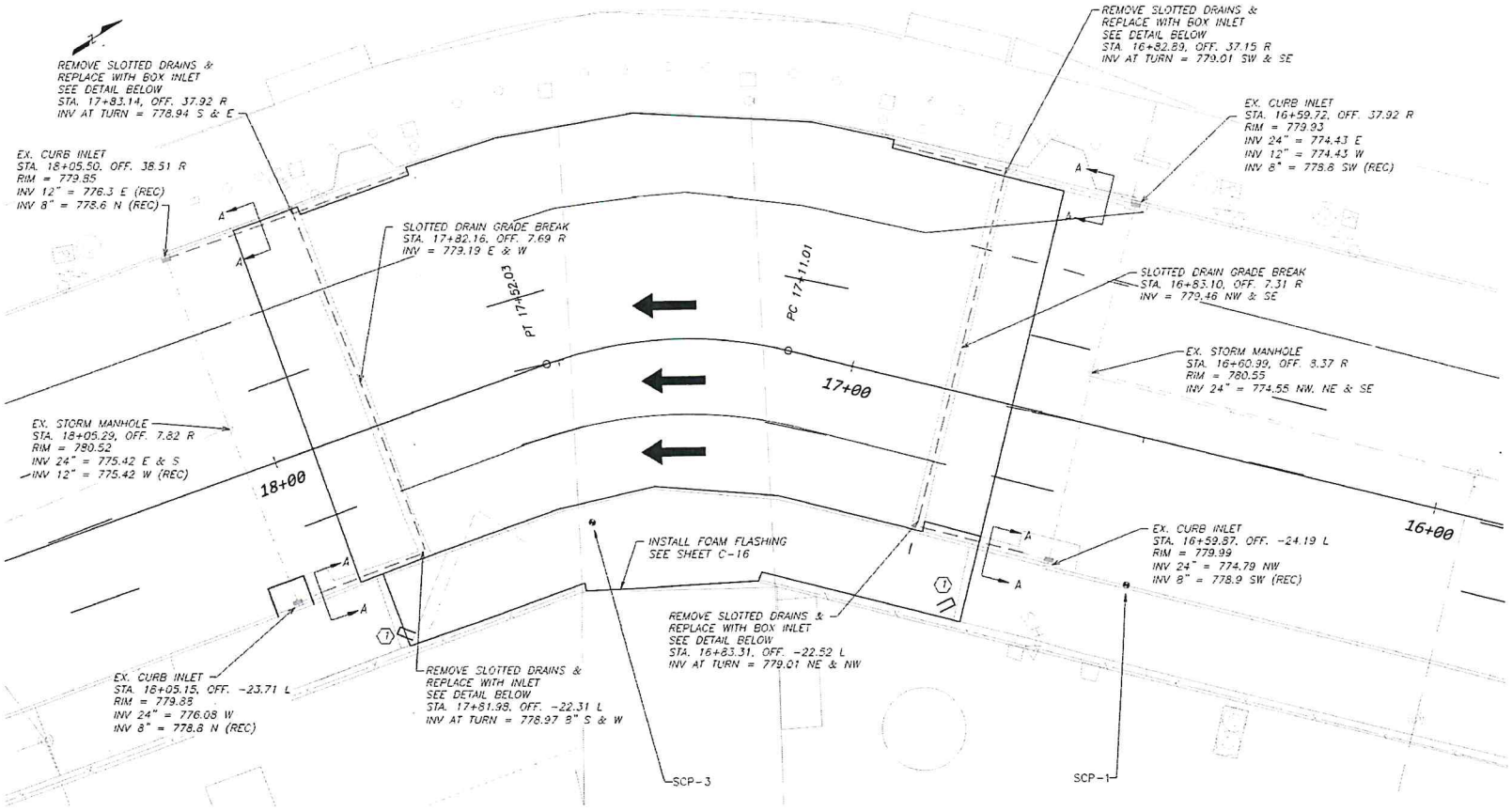
Phase 4 Overview



MOT PHASE 4 PLAN
SCALE: 1" = 50'

CLEVELAND AIRPORT SYSTEM

Membrane Scope Overview

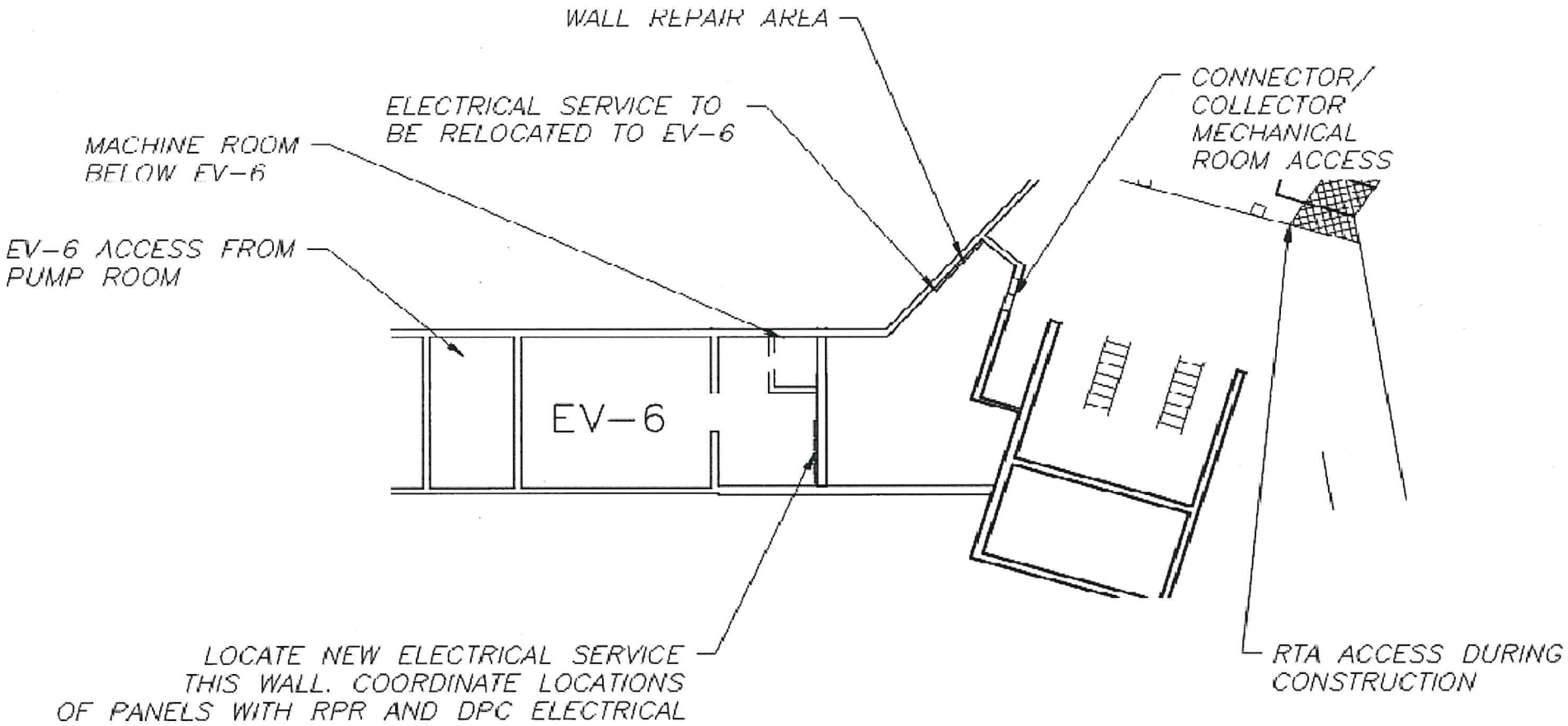


CLEVELAND AIRPORT SYSTEM

Membrane Scope Overview Cont.

- **Tunnel Membrane Replacement (for each Phase)**
  - Work zone delineation and survey of existing roadway markings
  - Asphalt cold milling – 4”
  - Concrete wearing slab removal
  - Waterproofing system removal
  - Repair of the tunnel structural slab, if required
  - Installation of new waterproofing system
  - Installation of the concrete wearing slab
  - Asphalt concrete overlay
  - Joint sealing/flashing installation
  - Final roadway markings
  - Refer to the project documents for more information

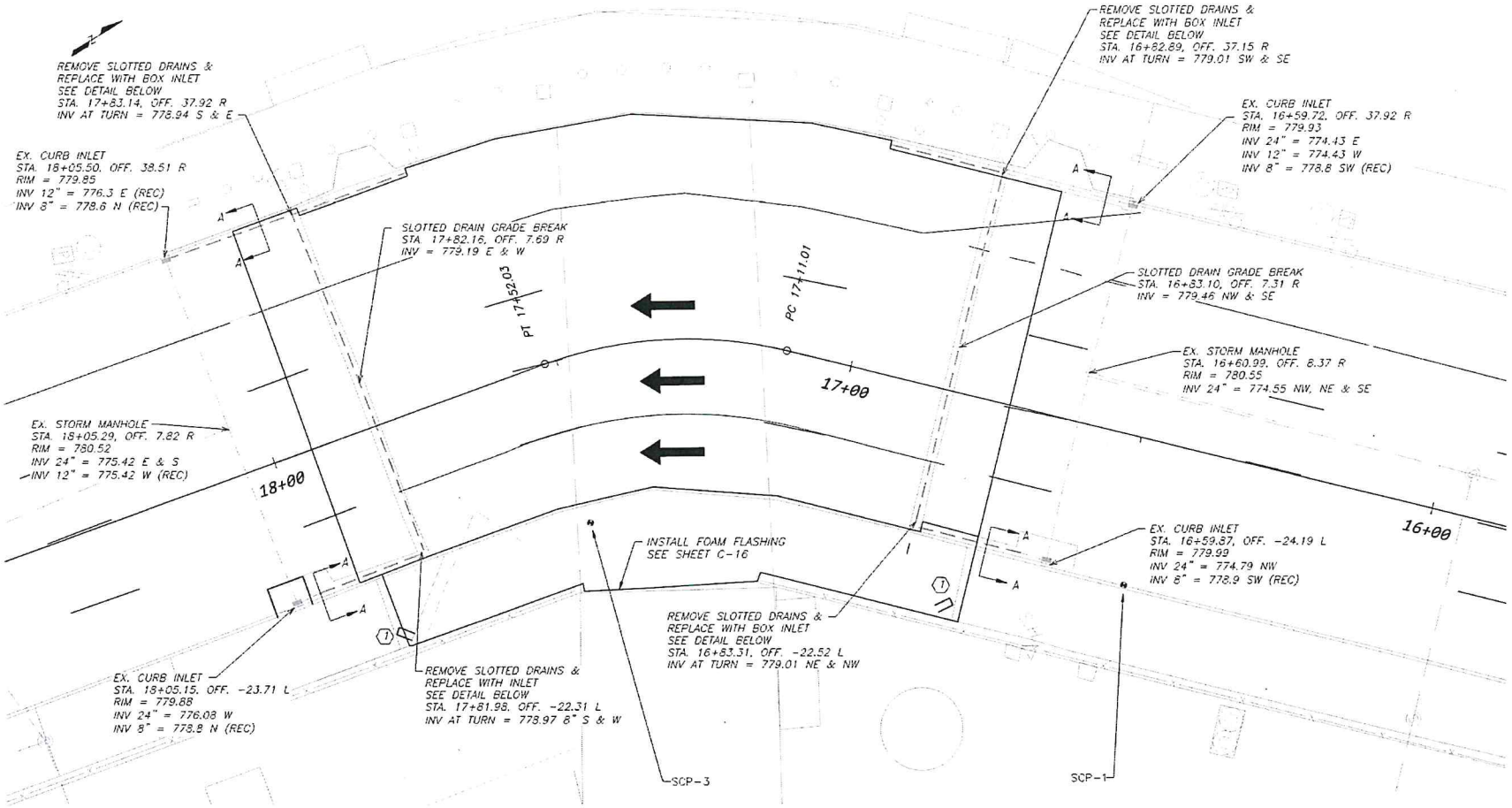
Concrete Wall Repair Scope Overview



Concrete Wall Scope Overview

- **Mechanical Room Concrete Wall Repair**
  - Relocate Electrical Service Panels and transformers from the repair wall area to Electrical Vault EV-6, including all required wall penetrations, conduits, cabling, and panels
  - Power outages for modifications and switch overs will be limited to the hours of 0000 to 0400.
  - Prior to switching over any circuits, the Contractor will investigate and identify the affected areas. The list of circuits and affected areas will be presented to the Electrical Department prior to switch over.
  - The Contractor is responsible for any temporary shoring of the existing structural members.
  - The Resident Project Representative will sound the wall and identify areas of concrete removal. Following removal of loose concrete, any exposed reinforcement will be cleaned.
  - The concrete will be replaced to the original wall limits.
  - Refer to the project documents for more information

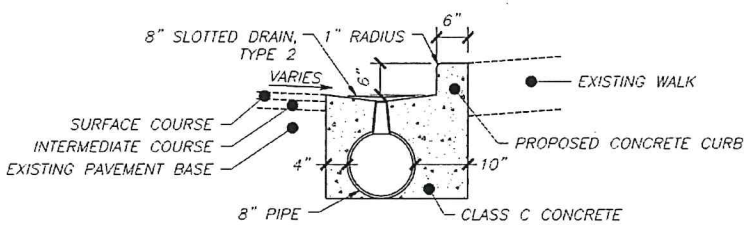
Drainage Overview



CLEVELAND AIRPORT SYSTEM

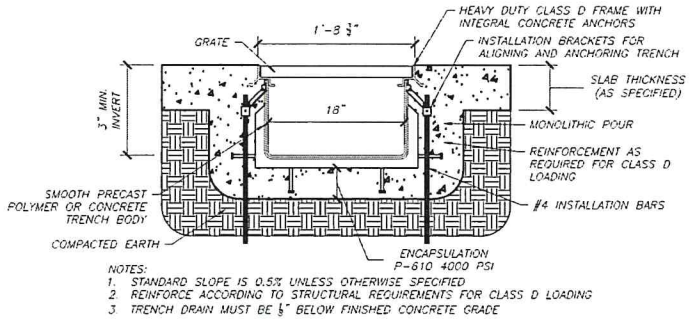
Drainage Overview

- The project will replace the existing drains with box inlets per D751.
- The slot drains will be replaced in the areas where they cross the Lower Roadway.
- Refer to ODOT Standard Construction Drawing DM-1.3 for the existing section to be removed.
- The slot drains running parallel to the curb will remain. The new box inlets will be connected to the slot drains to remain.



SECTION A–A
(TYPICAL ALONG CURB)

EXISTING 8" SLOTTED DRAIN, TYPE 2
SEE ODOT STANDARD DRAWING DM-1.3



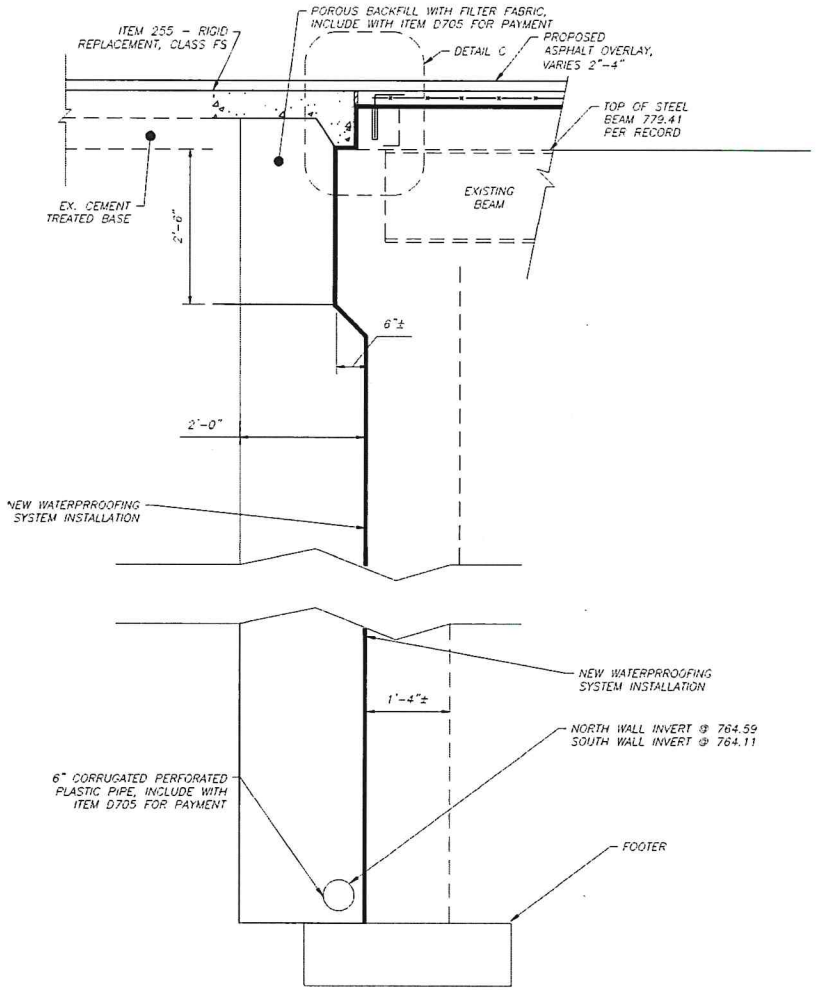
D751 BOX INLET
SCALE: NTS

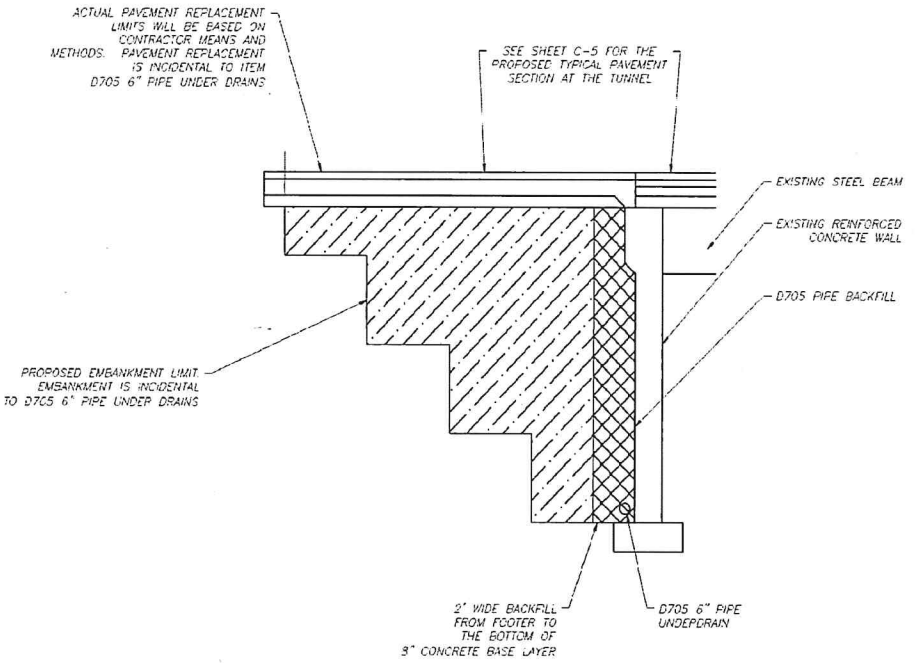
CLEVELAND AIRPORT SYSTEM

Drainage Overview

- **Drainage Items (for each Phase)**
  - Cold milling, concrete pavement, and base removal
  - Excavation to allow for the removal and replacement of the Tunnel footer drains
  - Backfill of the tunnel wall and excavated area
  - Installation of the box inlet drains
  - Replacement of the concrete pavement and base as indicated in the project documents.
  - Asphalt overlay to match existing pavement at project limits
  - Final roadway markings
  - Refer to the project documents for more information

Tunnel Footer Drain Replacement

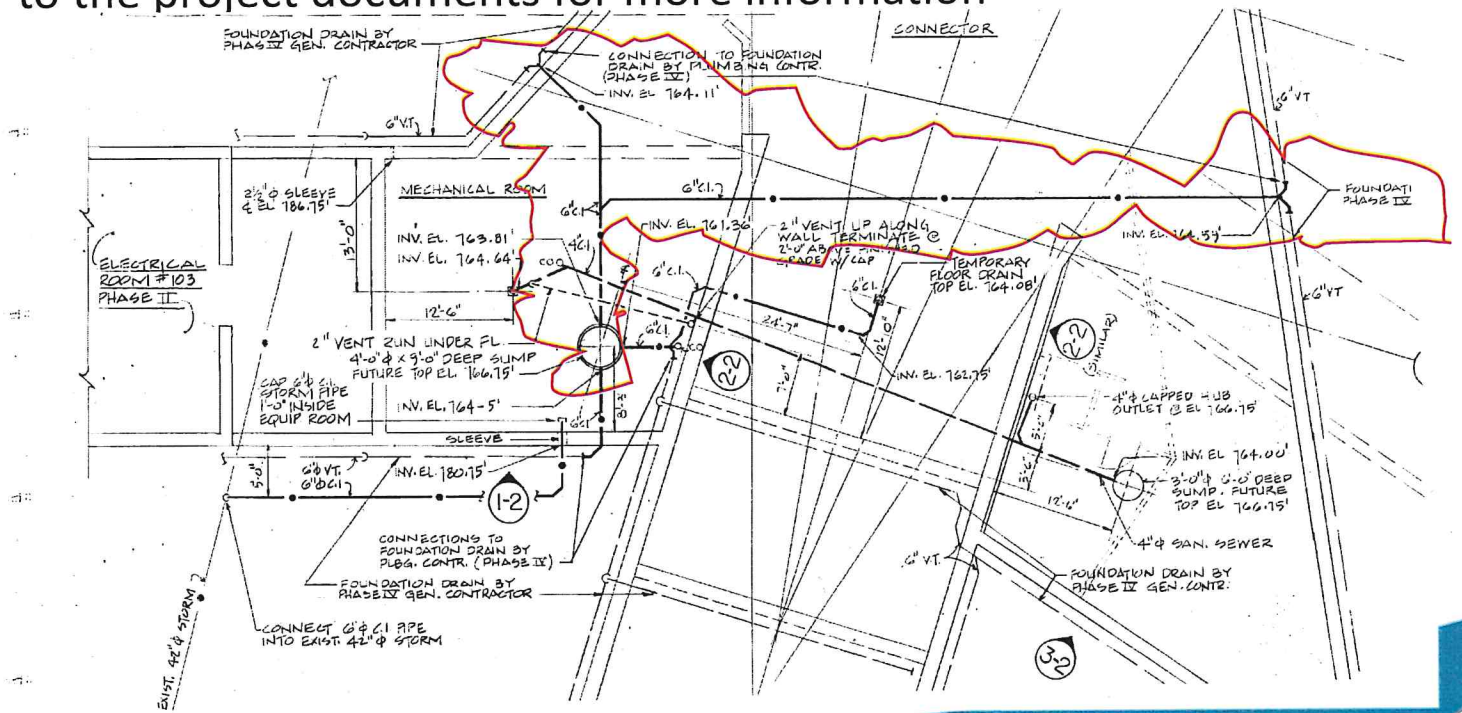




CLEVELAND AIRPORT SYSTEM

Plumbing Modifications

- **Mechanical Room Plumbing Modifications**
  - According to the available as built information, the footer drains are connected to a 6" pipe beneath the mechanical room floor.
  - The project will locate the drain and replace the existing pipe with a solid 8" PVC pipe at the same location. Pipe to be sloped to drain.
  - Refer to the project documents for more information



CLEVELAND AIRPORT SYSTEM

Planning & Engineering

LIQUIDATED DAMAGES

LIQUIDATED DAMAGES ACCRUE AT $1,000/CALENDAR DAY/PHASE.

SUBSTANTIAL COMPLETION IS:

- **120 CALENDAR DAYS FROM THE CONSTRUCTION NOTICE TO PROCEED**

Tristian A. Hooten, MPA
Airport Health and Safety Manager
City of Cleveland, Department of Port Control
Office: (216) 265-6965 | Cell: (216) 857-6931
email: thooten@clevelandairport.com

Safety

- Safety Management System
- OSHA/FAA/DPC/Requirements
- Site Specific Health and Safety Plan
- Insurance requirements

Security

Shawn M Harris, Sr
Interim Security Manager
City of Cleveland, Department of Port Control
Office: (216) 265-3981
email: sharris@clevelandairport.com

- The Firm must assume the cost of each Cleveland Hopkins Airport issued access media. The cost is $65 non-refundable for the following:
  - Fingerprint based Criminal History Records Check (CHRC)
  - Security Threat Assessment (STA)
  - Training on Airport specific Security badge responsibilities
  - Payment to "Treasurer, City of Cleveland". Checks, Credit Cards or if authorized by finance it may be invoiced monthly
  - Expect 1-3 weeks to complete the process

- All vehicles operating outside of the VSR will require an escort. Vehicles operating in the VSR will require an escort if the operator does not have a SIDA badge and driving privileges. Vehicles must be properly marked and lighted. All vehicle movement must comply with the rules and regulations of the FAA and the Airport.

- Ramp hang tags to allow vehicle access may be attained provided all qualifications for insurance are met.
  - Current registration
  - Proper signage (2ft x 2ft company logo)
  - $10 million policy

- No credentials will be issued until a Notice to Proceed is issued.

- Please allow 5-7 days for processing after Fingerprint results are received.

CLEVELAND AIRPORT SYSTEM

Operations

Zachary Randall
Manager Airport Operations
(216) 265-6791
zrandall@clevelandairport.com

CLE OPERATIONS: (216) 265-6090

- Emergency Phone contacts of personnel will be delivered to Airport Operations for contacts regarding project site and its activities

- Activity on the airport must comply with the requirements of FAA rules and regulations. Reference the construction Advisory Circular "Operational Safety on Airports During Construction," 150/5370-2, current version (E). This file may be downloaded from the FAA's website at http://www.faa.gov

- Incursions (unauthorized access into an area intended for the movement of aircraft) will not be dealt with lightly, especially a runway incursion. Any incident will most likely result in the removal of the subject individual, and possibly the supervisor, from the airfield permanently

- Site maintenance should be performed on a regular basis to include the sweeping of debris and collection of trash. This is for FOD / dust / wildlife control purposes

Office of Compliance and Inclusion (OCI)

Contact Information

Rosita Turner

Manager

(O)216-265-6606

(M) 216-857-6875

E-mail: rturner@clevelandairport.com

CLE
CLEVELAND HOPKINS INTERNATIONAL AIRPORT

OCI REQUIREMENTS

POINTS OF DISCUSSIONS:

1. Provisions of DBE/ACDBE and SBE Program
2. Project Goals
3. SBE Certification and Validation
4. DBE/ACDBE, Non Certified DBE/ACDBE, SBE Forms
5. Project Compliance Requirements
6. Davis Bacon Requirements
7. Fraud and Sanctions

CLE
CLEVELAND HOPKINS INTERNATIONAL AIRPORT

1. PROVISIONS OF THE DBE/ACDBE AND SBE PROGRAM

1a. 49 CFR PART 26 - DISADVANTAGED BUSINESS ENTERPRISE (DBE)

1b. 49 CFR PART 23 - AIRPORT CONCESSIONS DISADVANTAGED BUSINESS ENTERPRISE (ACDBE)

* **EFFECTIVE MARCH 2013:**

SMALL BUSINESS ENTERPRISE (SBE) element of DBE/ACDBE Program

CLE
CLEVELAND HOPKINS INTERNATIONAL AIRPORT

2. PROJECT SPECIFIC GOALS

DBE Project Specific Goal 9.39 %

- ✓ **Based on willingness, readiness and availability**
- ✓ Certified DBE/ACDBE website:

  http://www.dot.state.oh.us/dbe/Pages/UCP.aspx

Small Business Enterprise (SBE) Project Goal: 7 %

3. SBE CERTIFICATION AND VALIDATION

2 Kinds of SBEs

a. Certified DBEs

b. Non-certified DBEs

Submission requirements:

b1. OCI's SBE Certification and Validation

b2. Most recent three (3) years business tax returns

b4. One of the following certifications:

- b4-1. CSB Certification - Cleveland OEO
- b4-2. Small Business Certification - Cuyahoga County
- b4-3. US SBA 8(a) Certification
- b4-4. NEORSD Certification
- b4-5. Northern Ohio Supplier Diversity Council Certification

4. DBE/ACDBE, NON CERTIFIED DBE/ACDBE, SBE FORMS

4a. Certified DBEs/ACDBEs:

4a1. **B-3** *(DBE/ACDBE Participation Plan)*

4a2. **B-2** *(DBE/ACDBE Affidavit)*

4a3. **B-4A** *(Letter of Intent to Perform as Subcontractor/Sub-consultant)*

4b. Good Faith Effort

4c. Non Certified DBEs/ACDBEs and SBEs:

4c1. **B-6** *(Non DBE/ACDBE and SBE Participation Plan)*

4c2. **B-4B** *(Letter of Intent to Perform as Subcontractor/Sub-consultant)*

4. DBE/ACDBE, NON CERTIFIED DBE/ACDBE, SBE FORMS - *continuation*

4d. Tier Subcontractors

4d1. **B-8** *(2nd Tier/3rd Tier Subcontractor/Sub-consultant)*

4d2. **For DBE**: B-2 and B-4A; **For Non DBE**: B-4B

4e. Emergency Utilization of Subcontractors

4e1. **B-9** *(Emergency Addition-Conditional Approval of Subcontractor/Sub-consultant)*

4a1. ENCLOSURE B-3

(DBE/ACDBE Participation Plan)

CLE
CLEVELAND HOPKINS INTERNATIONAL AIRPORT

ENCLOSURE B-3

CERTIFIED DISADVANTAGED BUSINESS ENTERPRISE/AIRPORT CONCESSION DISADVANTAGED BUSINESS ENTERPRISE (DBE/ACDBE) PARTICIPATION PLAN

Name of Prime Contractor			
Name of Project			
Project/Contract No		Total BASE Bid/Proposal Amount	Base Bid$$$$$$$

All firms must provide FEDERAL TAX ID NUMBER and must complete and sign a B-4A form******

Name of CERTIFIED DBE/ACDBE	Federal Tax ID (must provide)	Address	Contact Person	Scope of Work	Percent Participation	Dollar Value of Work
1 DBE1	xx-xxxxxxx	Address1, City, State Zip	Point of Contact	Solicited work (NAICS Code)	%	$$$
2. DBE2	xx-xxxxxxx	Address1, City, State Zip	Point of Contact	Solicited work (NAICS Code)	%	$$$
3.						
4.						
5.						
6.						
7.						
				Total DBE/ACDBE Dollars (%)		

The undersigned will enter into formal agreement with the certified DBEs/ACDBEs listed above for work in this schedule conditioned upon the award of a contract by the Cleveland Airport System

Signature of Prime Contractor Representative	Email:	Telephone	Fax	Date

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4a2. Enclosure B-2 (DBE/ACDBE AFFIDAVIT)
4a3. Enclosure B-4A (INTENT TO PERFORM...)

Enclosure B2

(DBE/ACDBE AFFIDAVIT)

ENCLOSURE B-2

DBE/ACDBE AFFIDAVIT

THIS PAGE IS TO BE COMPLETED BY ALL DISADVANTAGED BUSINESS ENTERPRISE/AIRPORT CONCESSION DISADVANTAGED BUSINESS ENTERPRISE (DBE/ACDBE) PROPOSED TO PARTICIPATE ON THIS PROJECT.

I hereby declare and affirm that I am (company representative) _____and duly authorized representative of the _____ _____ (name of corporation or joint venture) whose address is _____ _____.

I HEREBY DECLARE AND AFFIRM THAT I AM A DISADVANTAGED BUSINESS ENTERPRISE/AIRPORT CONCESSION DISADVANTAGED BUSINESS ENTERPRISE (DBE/ACDBE) AS DEFINED BY 49 CFR Part(s) 23 or 26. I WILL PROVIDE INFORMATION AND/OR THE CERTIFICATION TO DOCUMENT THIS FACT **(attach copy of certification).**

I DO SOLEMNLY SWEAR OR DECLARE AND AFFIRM THAT THE CONTENTS OF THE FOREGOING STATEMENT ARE TRUE AND CORRECT, AND THAT I AM AUTHORIZED, ON BEHALF OF THE ABOVE FIRM, TO MAKE THIS AFFIDAVIT.

_____ _____
(Affiant) *(Date)*

State of _____)

City and County of _____)

On this _____ day of _____, before me, the undersigned officer personally appeared _____, known to me to be the person described in the abovementioned Affidavit, and acknowledged that he/she executed the same in the capacity therein stated and for the purposes therein contained.

In witness thereof, I hereunto set my hand and official seal.

My Commission Expires: _____

_____
(Notary Public)

(SEAL)

MUST BE NOTARIZED

Enclosure B4-A

(Intent to Perform as Certified DBE/ACDBE)

ENCLOSURE B-4A

LETTER OF INTENT TO PERFORM AS A CERTIFIED DBE/ACDBE SUB-CONTRACTOR/CONSULTANT

This form is to be completed by Prime Contractors and Consultants and ALL certified DBE and ACDBE Sub-contractors and Sub-consultants.

Project Name _____

Location _____

TO BE COMPLETED BY PRIME CONTRACTOR/CONSULTANT

Prime Contractor/Consultant _____
(FEDERAL TAX ID – MUST PROVIDE _____)

I am the _____ and duly authorized representative of the (firm of) _____ which needs to perform work for the above project operating as (strike out positions that do not apply) an Individual, a Company, a Corporation, organized and existing under the laws of the State of _____, or a Proprietorship, a Partnership, or Joint Venture consisting of _____

TO BE COMPLETED BY CERTIFIED SUB-CONTRACTORS/CONSULTANTS

DBE/ACDBE Subcontractors/consultants: _____

The firm I represent is a Disadvantaged Business Enterprise/Airport Concession Disadvantaged Business Enterprise which is currently certified by the Ohio Unified Certification Program as DBE/ACDBE with a certification date of _____. My firm is certified to perform work in the following areas: *(Please provide a description of ALL work along with the NAICS Code for which your firm is certified)*

The undersigned is prepared to perform the following described work in connection with the above project *(Specify in appropriate detail particular work items or parts to be performed along with NAICS Code for this project only. Also, please provide associated pricing with work outlined)*

	Type of Work and Items	Price Associated
1.		
2.		
3.		
4.		
5.		

You have projected the following commencement date for such work, and the undersigned is projecting completion of such work as follows (Do not leave the chart below blank. Information is to be provided for ALL procurement's with the exception of RFQ's (task order) and concessions (ACDBE) projects.

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4b. Good Faith Effort

(49 CFR Part 26.53)

All solicitation documentations must be included with proposals upon submissions

[49CFR Part 26-Appendix A49 CFR 26.53(a)(2)]

ENCLOSURE B-5

GOOD FAITH EFFORTS GUIDELINES

Instructions: In the event a competitor is unable to commit to full attainment of an established ACDBE contract specific goal, a good faith efforts evaluation must be conducted by the Airport. All competitors must provide documentation demonstrating all of the steps outlined below were taken in attempting to obtain ACDBE participation. ALL GOOD FAITH EFFORT DOCUMENTATION MUST BE SUBMITTED AT THE TIME OF BID/PROPOSAL/QUALIFICATION. With the exception of the RFQ process the Airport is not allowed to contact potential contractors/consultants prior to selection of the successful bidder/proposer regarding information submitted. If good faith efforts are not submitted at the time of bid/proposal the bidder/proposer will be deemed NON-COMPLIANT.

1. Whether the contractor attended any pre-solicitation or pre-bid meetings that were scheduled by the recipient to inform ACDBEs of contracting and subcontracting opportunities.
2. Whether the contractor advertised in general circulation, trade association, and minority-focus media concerning the subcontracting opportunities.
3. Whether the contractor provided written notice to a reasonable number of specific ACDBEs, that their interest in the contract was being solicited in sufficient time to allow the ACDBEs to participate effectively;
4. Whether the contractor followed up initial solicitations of interest by contacting ACDBEs to determine with certainty whether the ACDBEs were interested.
5. Whether the contractor selected portions of the work to be performed by ACDBEs in order to increase the likelihood of meeting the ACDBE goals (including, where appropriate, breaking down contracts into economically feasible units to facilitate ACDBE participation).
6. Whether the contractor provided interested ACDBEs with adequate information about the plans, specifications and requirements of the contract.
7. Whether the contractor negotiated in good faith with interested ACDBEs, not rejecting ACDBEs as unqualified without sound reasons based on a thorough investigation of their capabilities.
8. Whether the contractor made efforts to assist interested ACDBEs in obtaining bonding, lines of credit or insurance required by the recipient or contractor; and
9. Whether the contractor effectively used the services of available minority community organizations; disadvantaged contractors' groups; local, state and Federal disadvantaged business assistance offices, and other organizations that provide assistance in the recruitment and placement of ACDBEs.

*PLEASE ATTACH ALL SUPPORTING DOCUMENTATION OF THE GOOD FAITH EFFORTS TO THE BID/PROPOSAL/QUALIFICATIONS. COMPETITORS WILL BE DETERMINED NON-COMPLIANT WITHOUT THE APPROPRIATE SUPPORTING GOOD FAITH EFFORTS DOCUMENTATION.

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4c1. ENCLOSURE B-6

(NON CERTIFIED DBE/ACDBE and SBE PARTICIPATION PLAN)

ENCLOSURE B-6

NON-CERTIFIED DISADVANTAGED BUSINESS ENTERPRISPRISE / AIRPORT CONCESSION DISADVANTAGED BUSINESS ENTERPRISE SUB-CONTRACTOR/CONSULTANT (NON-CERTIFIED DBE/ACDBE) AND SMALL BUSINESS ENTERPRISE (SBE) PARTICIPATION PLAN

****Bidders MUST make a Good Faith Effort to meet the established SBE Goal****

Name of Prime Contractor			
Name of Project			
Project/Contract No		Total BASE Bid Amount	

All firms must provide FEDERAL TAX ID NUMBER AND COMPLETE FORM B 4B

SBE YES	SBE NO	Name of NON CERTIFIED DBE/ACDBE (For SBE - Identify if DBE/ACDBE)	Federal Tax ID (must provide)	Address	Contact Person	Scope of Work	Percent Participation	Dollar Value of Work (Non-Certified DBE/ACDBE)	Dollar Value of Work (SBE)
	x	1. Non DBE 1	xx xxxxxxx	Street City, State Zip	Point of Contact	Solicited Work	%	$$$$$	
x		2. 3. SBE 1	xx-xxxxxxx	Street City, State Zip	Point of Contact	Solicited Work	%		$$$$$
		4.							
		5							
		6.							
						Total NON-CERTIFIED DBE/ACDBE Dollars (%)			

The undersigned will enter into formal agreement with the subcontractors listed above for work in this schedule conditioned upon the award of a contract by the Cleveland International Airport.

Signature of Prime Contractor Representative	Email:	Telephone	Fax	Date

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4c2. ENCLOSURE B-4B

(LETTER OF INTENT TO PERFORM AS A NON-CERTIFIED DBE/ACDBE AND SBE SUBCONTRACTOR/SUB-CONSULTANT)

ENCLOSURE B-4B

LETTER OF INTENT TO PERFORM AS A *NON-CERTIFIED* *DBE/ACDBE and SBE* SUBCONTRACTOR/SUBCONSULTANT

*This form is to be completed by Prime Contractors and Consultants and ALL **NON-CERTIFIED** DBE, ACDBE and **SBE** Subcontractors and Sub-consultants.*

Project Name: _____

Location: _____

TO BE COMPLETED BY PRIME CONTRACTOR/CONSULTANT

Prime Contractor/Consultant: _____

(Federal Tax ID Number – MUST PROVIDE_____)

I am the _____ and duly authorized representative of the (firm of) _____, which intends to perform work for the above project operating as (*strike out conditions that do not apply*) an individual, a Company, a Corporation, organized and existing under the law of the State of _____, or a Proprietorship, a Partnership, or Joint Venture consisting of:

_____

_____

TO BE COMPLETED BY NON-CERTIFIED DBE/ACDBE/SBE SUB-CONTRACTORS/CONSULTANTS

Sub-Contractor/Consultant:

_____

I am the _____ and duly authorized representative of the (firm of) _____, which intends to perform work for the above project operating as (*strike out conditions that do not apply*) an individual, a Company, a Corporation, organized and existing under the law of the State of _____, or a Proprietorship, a Partnership, or Joint Venture consisting of:

_____

_____

_____

You have projected the following commencement date for such work, and the undersigned is projecting completion of such work as follows (Do not leave the chart below blank. Information is to be provided for ALL procurements with the **exception of RFQ's (task order) and concessions (revenue generating) projects.** If the chart below has not been completed the form will be considered **INCOMPLETE** and will be returned and potentially delay the procurement process):

Type of Work and Items	Work Hours Involved	Projected Commencement Date	Projected Completion Date
1.			
2.			
3.			
4.			
5.			
6.			

REPRESENTATION TO UTILIZE 2ND/3RD TIER SUB-CONTRACTOR/CONSULTANTS

I further represent that _____ percent (___ %) of the dollar value of my subcontract will be performed by 2nd ___/3rd ___ tier subcontractors and/or suppliers, which are: ___ certified / ___ not certified by the Airport as an Airport Concession/Disadvantaged Business Enterprise. *(Please provide 2nd/3rd tier sub information on form B-7).*

NOTE: All sub-contractor/consultant agreements with certified and non-certified sub-contractors/consultants must be provided to the Airport prior to issuance of the DBE/ACDBE/SBE Notice to Proceed (NTP). Delay in receipt of this information can directly impact the project timeline.

TO BE COMPLETED BY NON-CERTIFIED SUB-CONTRACTOR/CONSULTANTS

The undersigned sub-contractor/consultant will enter into a formal agreement for the above work with _____ (prime contractor/consultant) conditioned upon the execution of a contract with the Airport.

Respectfully submitted, this

_____ Day _____, 20____

(**NON-CERTIFIED** DBE/ACDBE/SBE Firm Name) _____

(Address) _____

_____

_____

(Signature) _____

(Name Typed) _____

(Title) _____

(SEAL IF PROPOSER IS A CORPORATION)

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4d1. ENCLOSURE B-8

(2ND TIER/3RD TIER SUBCONTRACTOR/SUB-CONSULTANT)

ENCLOSURE B-8

2ND/3RD TIER SUBCONTRACTOR/SUBCONSULTANT FORM

THIS FORM IS TO PROVIDE A LISTING OF **ALL** 2ND/3RD TIER SUB-CONTRACTORS AND SUBCONSULTANTS PERFORMING ON THE PROJECT. ALL SUBCONTRACTOR AGREEMENTS MUST BE PROVIDED PRIOR TO RECEIVING A DBE/ACDBE NTP (NOTICE TO PROCEED). DELAY IN RECEIPT OF THIS INFORMATION CAN DIRECTLY IMPACT PROJECT SCHEDULE.

DEFINITIONS

2ND TIER SUB-CONTRACTORS/CONSULTANTS – CONTRACTORS THAT CONTRACT DIRECTLY WITH THE 1ST TIER SUB-CONTRACTORS/CONSULTANTS.

3RD TIER SUB-CONTRACTOR/CONSULTANTS – CONTRACTORS THAT CONTRACT DIRECTLY WITH THE 2ND TIER SUB-CONTRACTORS/CONSULTANTS.

Name of Prime Contractor			
Name of Project		Total BASE Bid Amount	

All firms must provide FEDERAL TAX ID NUMBER AND COPIES OF AGREEMENTS

2nd/3rd Tier Sub Contractor/Consultant Name	1st TIER Sub-Contractor/Consultant w/Agreement w/ 2nd/3rd Tier	Identify 2nd Tier 3rd Tier	CERTIFIED DBE/ ACDBE (YES / NO)	Federal Tax ID (must provide)	Address	Contact Person	Scope of Work	Total Dollar Amount
1. Firm 1	Sub to Sub	1st	Yes	xx-xxxxxxx	Street City, State Zip	Point of Contact	Solicited Work (NAICS)	$$$$$
2. Firm 2	Sub to sub to sub	2nd	No	xx xxxxxxx	Street City, State Zip	Point of Contact	Solicited Work	$$$$$
3 Firm 3	Sub to sub to sub to sub	3rd	No	xx-xxxxxxx	Street City, State Zip	Point of Contact		$$$$$
4								
5.								
6.								
7								
							TOTAL DOLLARS	

The undersigned will enter into formal agreement with the subcontractors listed above for work in this schedule conditioned upon the award of a contract by the Cleveland International Airport.

Signature of Prime Contractor Representative	Email:	Telephone	Fax	Date

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4d2. TIER FORM 2

- **If Tier is a DBE/ACDBE, use:**
  1. DBE/ACDBE form 2 (Enclosure B-2)
  2. DBE/ACDBE form 3 (Enclosure B-4A)

- **If Tier is Non Certified DBE/ACDBE, use:**
  1. NON CERTIFIED DBE/ACDBE-SBE form 2 (Enclosure B-4B)

- **If Tier is SBE:**
  1. Apply SBE Verification and Validation rule
  2. NON CERTIFIED DBE/ACDBE-SBE form 2 (Enclosure B-4B)

4e1. ENCLOSURE B-9
(EMERGENCY FORM)

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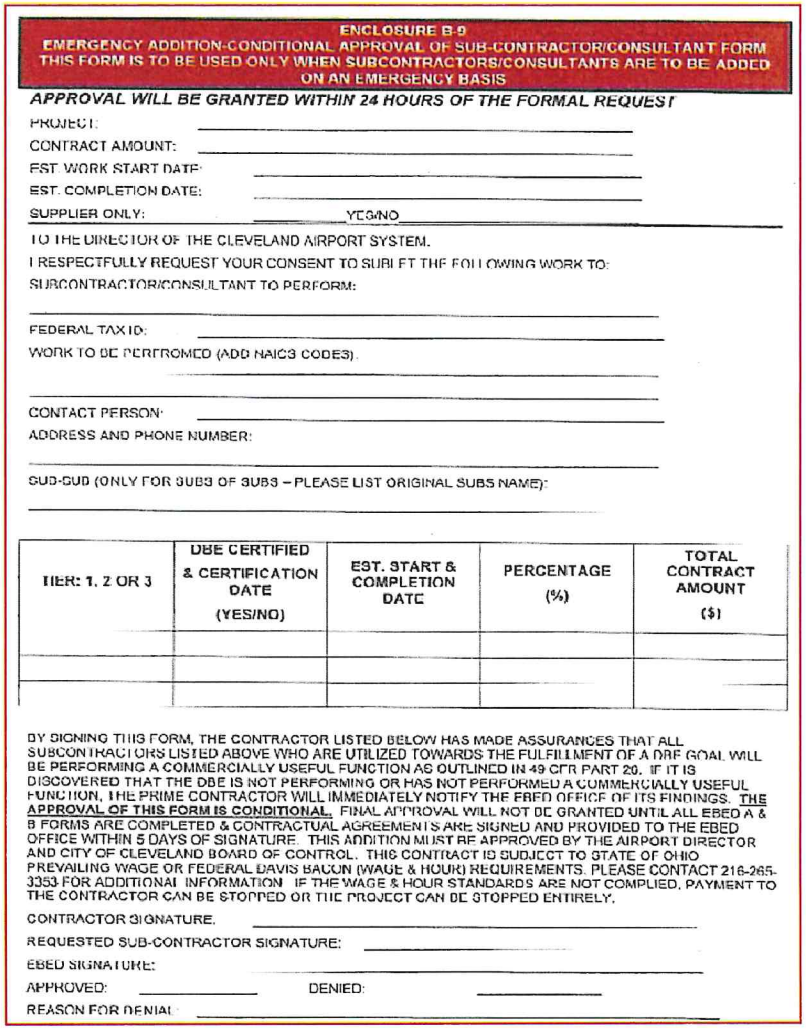
Emergency Form Requirements:

1. **Acquire prior approval before utilization of sub/s**

2. **Submit revised documents to add/exclude a sub**
   - ✓ For DBE – B-3, B-2, B-4A
   - ✓ Non DBE – B6, B-4B
   - ✓ For Tier – use forms accordingly



ENCLOSURE B-9
EMERGENCY ADDITION-CONDITIONAL APPROVAL OF SUB-CONTRACTOR/CONSULTANT FORM
THIS FORM IS TO BE USED ONLY WHEN SUBCONTRACTORS/CONSULTANTS ARE TO BE ADDED ON AN EMERGENCY BASIS

APPROVAL WILL BE GRANTED WITHIN 24 HOURS OF THE FORMAL REQUEST

PROJECT: _____
CONTRACT AMOUNT: _____
EST. WORK START DATE: _____
EST. COMPLETION DATE: _____
SUPPLIER ONLY: _____ YES/NO _____

TO THE DIRECTOR OF THE CLEVELAND AIRPORT SYSTEM.
I RESPECTFULLY REQUEST YOUR CONSENT TO SUBLET THE FOLLOWING WORK TO:
SUBCONTRACTOR/CONSULTANT TO PERFORM:
_____
FEDERAL TAX ID: _____
WORK TO BE PERFROMED (ADD NAICS CODES):
_____
_____
CONTACT PERSON: _____
ADDRESS AND PHONE NUMBER:
_____
SUB-SUB (ONLY FOR SUBS OF SUBS – PLEASE LIST ORIGINAL SUBS NAME):
_____

TIER: 1, 2 OR 3	DBE CERTIFIED & CERTIFICATION DATE (YES/NO)	EST. START & COMPLETION DATE	PERCENTAGE (%)	TOTAL CONTRACT AMOUNT ($)

BY SIGNING THIS FORM, THE CONTRACTOR LISTED BELOW HAS MADE ASSURANCES THAT ALL SUBCONTRACTORS LISTED ABOVE WHO ARE UTILIZED TOWARDS THE FULFILLMENT OF A DBE GOAL WILL BE PERFORMING A COMMERCIALLY USEFUL FUNCTION AS OUTLINED IN 49 CFR PART 26. IF IT IS DISCOVERED THAT THE DBE IS NOT PERFORMING OR HAS NOT PERFORMED A COMMERCIALLY USEFUL FUNCTION, THE PRIME CONTRACTOR WILL IMMEDIATELY NOTIFY THE EBED OFFICE OF ITS FINDINGS. **THE APPROVAL OF THIS FORM IS CONDITIONAL.** FINAL APPROVAL WILL NOT BE GRANTED UNTIL ALL EBED A & B FORMS ARE COMPLETED & CONTRACTUAL AGREEMENTS ARE SIGNED AND PROVIDED TO THE EBED OFFICE WITHIN 5 DAYS OF SIGNATURE. THIS ADDITION MUST BE APPROVED BY THE AIRPORT DIRECTOR AND CITY OF CLEVELAND BOARD OF CONTROL. THIS CONTRACT IS SUBJECT TO STATE OF OHIO PREVAILING WAGE OR FEDERAL DAVIS BACON (WAGE & HOUR) REQUIREMENTS. PLEASE CONTACT 216-265-3353 FOR ADDITIONAL INFORMATION. IF THE WAGE & HOUR STANDARDS ARE NOT COMPLIED, PAYMENT TO THE CONTRACTOR CAN BE STOPPED OR THE PROJECT CAN BE STOPPED ENTIRELY.

CONTRACTOR SIGNATURE: _____
REQUESTED SUB-CONTRACTOR SIGNATURE: _____
EBED SIGNATURE: _____
APPROVED: _____ DENIED: _____
REASON FOR DENIAL: _____

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5. PROJECT COMPLIANCE REQUIREMENTS

5a. Contract Clause Inclusion (29 CFR Part 5.13)

5b. Certification and Compliance Reporting System under B2GNow

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5a. CONTRACT CLAUSE INCLUSION

Assurance 49 CFR §26.13:

Applied to: Contract/subcontracts/sub-agreements with Prime Contractor and **ALL** tier subcontractor/supplier whether DBE, Non DBE or SBE.

"The contractor, sub recipient 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 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate, which may include, but not limited to withholding monthly progress payments, assessing sanctions, liquidated damages, disqualifying the contractor from future bidding as non-responsible."

5b. Certification and Compliance Reporting System under B2GNow

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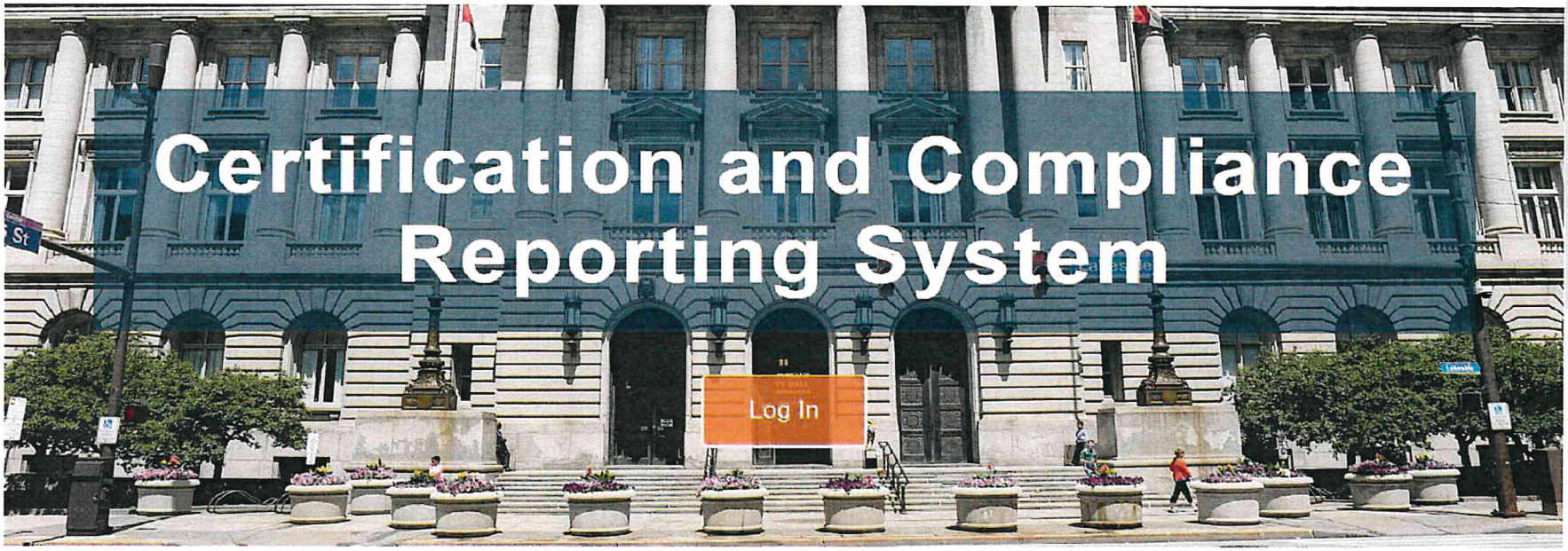

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5b. Certification and Compliance Reporting System under B2GNow

What?

i. **Monthly Payments Compliance Report**
   - Upload copies of invoices and cancelled checks

ii. **Project contract modifications**
   - Adding/reducing of sub-contractual agreements
   - Upload copies of invoices and cancelled checks

How?

Training! Training! Training!

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NOTE: ADDITIONS AND SUBSTITUTIONS OF SUBCONTRACTORS

ALL CORRESPONDING DBE/SBE FORMS MUST BE SUBMITTED TO OCI PRIOR TO UTILIZATION

- ✓ **49 CFR Part 26.53**
- ✓ **City of Cleveland**

SUB-CONTRACTOR ADDITION & SUBSTITUTION POLICY

EFFECTIVE November 1, 2011

The Policy and Procedure for sub-contractor Addition and Substitution will be enforced throughout The City of Cleveland.

All sub-contractor Addition and/or Substitution request must be approved by the Board of Control ***prior*** to commencement of work and or services.

Note: The City assumes no obligation to pay , and ***will not*** pay a contractor for any work and or services performed by a sub-contractor on the contract prior to Board of Control approval of that sub-contractor.

Questions: Contact your Project Manager, the Division of Purchasing & Supplies or the Office of Equal Opportunity.

Division of Purchasing Supplies: 216-664-2620

Department of OEO: 216-664-4152

The complete **Subcontractor Addition and Substitution Policy** is available on-line at **http://www.city.cleveland.oh.us**

Click on **Doing Business with the City** under the **BUSINESS** drop down menu.

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5. DAVIS BACON REQUIREMENTS

POINTS OF DISCUSSIONS

5a. Provisions of Davis Bacon

5b. Davis Bacon Project Contract Clause

5c. Applications of Davis Bacon

5d. Submissions Requirements

5e. Compliance Requirements

5f. Project On-Site Requirements

5g. Retainage Release Requirements

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5a. PROVISIONS OF DAVIS BACON

Davis-Bacon and Related Acts:
29 CFR Parts 1,3,5,6,and 7

United States Code:
40 3141-3144, 3146-3148

Copeland "Anti-Kickback" Act:
18 USC 874; 40 USC 3145; 29CFR Part 3

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5b. DAVIS BACON PROJECT CONTRACT CLAUSE INCLUSION

Requirement of 29 CFR Part 5.5

*"The contractor or subcontractor shall insert in any subcontracts the clauses contained in **29 CFR Part 5.5(a)(1) through (10)** and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts."*

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5c. APPLICATIONS OF DAVIS BACON

As explained in 29 CFR § 5.5(a):

- **Federal construction contracts over $2,000**

- **Construction includes:**
  - ✓ New construction
  - ✓ Re-construction
  - ✓ Alteration
  - ✓ Painting and decorating
  - ✓ Repair of public improvement over the established dollar threshold

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5c. APPLICATIONS OF DAVIS BACON

WHO IS COVERED UNDER DAVIS BACON?

➢ **Laborers and Mechanics on work site** *(29CFR § 5.2)*

Which Includes:

- Registered Apprentices
- Classified Helpers
- Working foremen
  - 20% x time as labor/mechanic + exemption under 29CFR Part 541
- Truck drivers not under *de minimis* *(29CFR § 5.2)*

Excluded in PWR:

Executive, Administrative, Non-working foremen, Professional employees

i.e. timekeepers, inspectors, architects, engineers

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5d. SUBMISSIONS REQUIREMENTS

1) **Pay Rates List** = submitted **prior** to start of project

2) **Apprentice Registrations and Trainees certifications**

3) **Certified Payrolls + Original Statement of Compliance**

- ✓ Initial Submission: After 2 weeks of project inception
- ✓ Thereafter: Weekly **through the one year warranty period**
- ✓ Form WH -347 *(http://dol.gov/esa/whd/forms/wh347instr.htm)*

SUBMISSIONS ARE WEEKLY!

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5e. COMPLIANCE REQUIREMENTS

- **Payroll records contains** *[29CFR § 5.5(3)]*:
  - ✓Name, address, social security number
  - ✓Correct classification
  - ✓Hourly rates *[inclusions of contributions for bonafide fringe benefits or cash equivalents described in Davis Bacon Act 1(b)(2)(B)]*
  - ✓Daily and weekly hours worked
  - ✓Deductions made and actual wages paid
- Project on-site interview
  - ✓Union/Non-Union Employees must have: Drivers license/State ID/Union ID
  - ✓Posters and prevailing wage rates displayed

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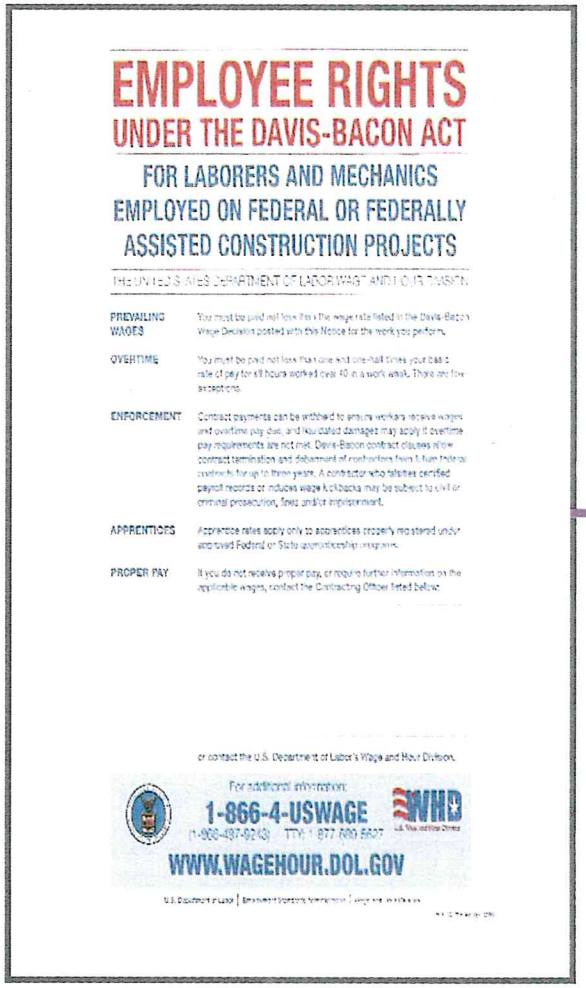
5f. PROJECT ON-SITE REQUIREMENTS



EMPLOYEE RIGHTS
UNDER THE DAVIS-BACON ACT
FOR LABORERS AND MECHANICS
EMPLOYED ON FEDERAL OR FEDERALLY
ASSISTED CONSTRUCTION PROJECTS

THE UNITED STATES DEPARTMENT OF LABOR | WAGE AND HOUR DIVISION

PREVAILING WAGES — You must be paid not less than the wage rate listed in the Davis-Bacon Wage Decision posted with this Notice for the work you perform.

OVERTIME — You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 in a work week. There are few exceptions.

ENFORCEMENT — Contract payments can be withheld to ensure workers receive wages and overtime pay due, and liquidated damages may apply if overtime pay requirements are not met. Davis-Bacon contract clauses allow contract termination and debarment of contractors from Federal contracts for up to three years. A contractor who falsifies certified payroll records or induces wage kickbacks may be subject to civil or criminal prosecution, fines and/or imprisonment.

APPRENTICES — Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.

PROPER PAY — If you do not receive proper pay, or require further information on the applicable wages, contact the Contracting Officer listed below.

or contact the U.S. Department of Labor's Wage and Hour Division.

For additional information:
1-866-4-USWAGE
(1-866-487-9243) | TTY: 1-877-889-5627
WHD
WWW.WAGEHOUR.DOL.GOV

U.S. Department of Labor | Employment Standards Administration | Wage and Hour Division

POSTERS

+

NOTICES

= ACCESSIBLE

AT WORKSITE

APPLICABLE WAGE DETERMINATION RATES

Wage determination USDOL website:

www.wdol.gov/dba.aspx#0

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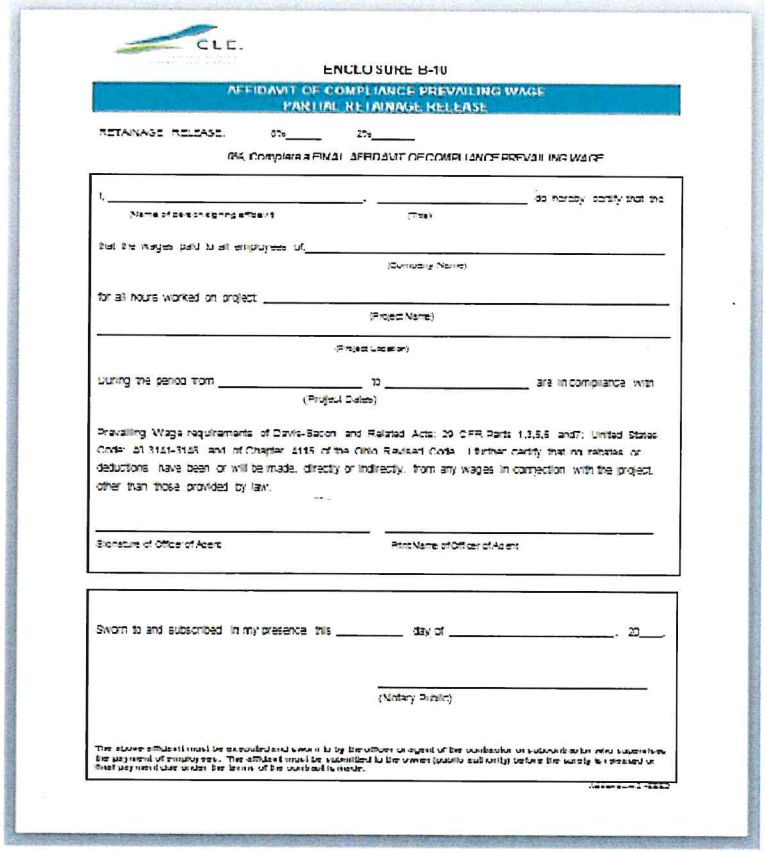
5g. RETAINAGE RELEASE REQUIREMENTS

A. ENCLOSURE B-10 For Partial Retainage Payment:



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ENCLOSURE B-10

AFFIDAVIT OF COMPLIANCE PREVAILING WAGE
PARTIAL RETAINAGE RELEASE

RETAINAGE RELEASE: 5%_____ 25%_____

(IN) Complete a FINAL AFFIDAVIT OF COMPLIANCE PREVAILING WAGE

I, _____, _____ do hereby certify that the
(Name of person signing affidavit) (Title)

that the wages paid to all employees of _____
(Contractor Name)

for all hours worked on project _____
(Project Name)

_____
(Project Location)

during the period from _____ to _____ are in compliance with
(Project Dates)

Prevailing Wage requirements of Davis-Bacon and Related Acts: 29 CFR Parts 1,3,5,6 and7; United States Code: 40 3141-3148 and of Chapter 4115 of the Ohio Revised Code. I further certify that no rebates or deductions have been or will be made, directly or indirectly, from any wages in connection with the project, other than those provided by law.

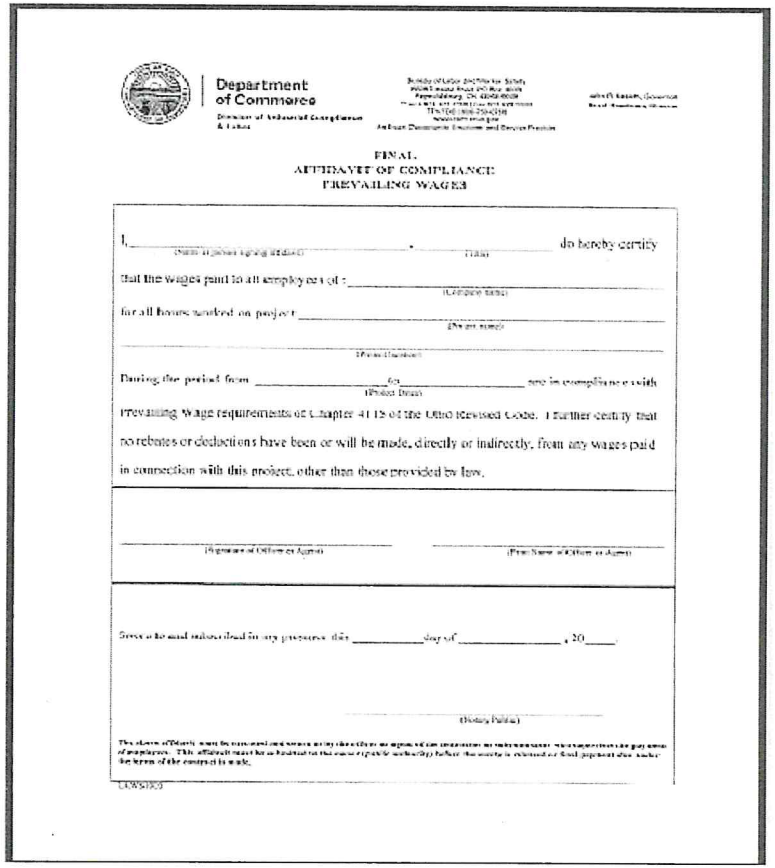
_____ _____
Signature of Officer or Agent Print Name of Officer or Agent

Sworn to and subscribed in my presence this _____ day of _____, 20____.

_____
(Notary Public)

The above affidavit must be executed and sworn to by the officers or agent of the contractor or subcontractor who supervises the payment of employees. The affidavit must be submitted to the owner (public authority) before the surety is released or final payment due under the terms of the contract is made.

B. FINAL AFFIDAVIT For Final Retainage Payment:



Department of Commerce

FINAL
AFFIDAVIT OF COMPLIANCE
PREVAILING WAGES

I, _____, _____ do hereby certify
(Name of person signing affidavit) (Title)

that the wages paid to all employees of: _____
(Contractor Name)

for all hours worked on project: _____
(Project name)

_____
(Project location)

During the period from _____ to _____ are in compliance with
(Project Dates)

Prevailing Wage requirements of Chapter 4115 of the Ohio Revised Code. I further certify that no rebates or deductions have been or will be made, directly or indirectly, from any wages paid in connection with this project, other than those provided by law.

_____ _____
(Signature of Officer or Agent) (Print Name of Officer or Agent)

Sworn to and subscribed in my presence this _____ day of _____, 20____.

_____
(Notary Public)

The above affidavit must be executed and sworn to by the officers or agents of the contractor or subcontractor who supervises the payment of employees. This affidavit must be submitted to the owner (public authority) before the surety is released or final payment due under the terms of the contract is made.

LEWS1003

CLE
CLEVELAND HOPKINS INTERNATIONAL AIRPORT

FRAUD AND SANCTIONS

Under
http://www.dol.gov/whd/regs/compliance/whdfs66.pdf

1. Contract payments withheld under CWHSSA

2. Grounds for contract termination

3. Contractor liability for any resulting costs to the government

4. Debarment from future contracts for a period up to three years

CLE™
CLEVELAND HOPKINS
INTERNATIONAL AIRPORT

OCI Requirements

Written questions - send to the designated Buyer

Planning & Engineering

Contract Documents

CONTRACT DOCUMENTS/BID PACKAGE COMPOSED OF:

BID FORMS PACKET: FORMS TO RETURN AS YOUR BID

SPEC BOOK: GENERAL REQUIREMENTS

TECHNICAL SPECIFICATIONS

PROJECT PLANS / DRAWINGS

ANY ADDENDA / ISSUED DURING BID PHASE

Questions Cut-Off: **March 1, 2024 at 4:00 PM**

CLEVELAND AIRPORT SYSTEM

Planning & Engineering

PURCHASES AND SUPPLIES

DIVISION OF PURCHASES AND SUPPLIES

TIFFANY WHITE, COMMISSIONER

PURCHASE DOCUMENTS

PLANS AND SPECIFICATIONS CAN BE PURCHASED AND PICKED UP FROM:

Jules Gilliam

THE DIVISION OF PURCHASES AND SUPPLIES

CITY HALL, ROOM 128

601 LAKESIDE AVENUE

CLEVELAND, OHIO 44114

Planning & Engineering

Questions and Answers

Please send all future questions in writing after the pre-bid meeting to the Division of Purchases and Supplies.

ATTN: Jules Gilliam

Emailed to both: Purchasing@clevelandohio.gov

and

jgilliam@clevelandohio.gov

Or via

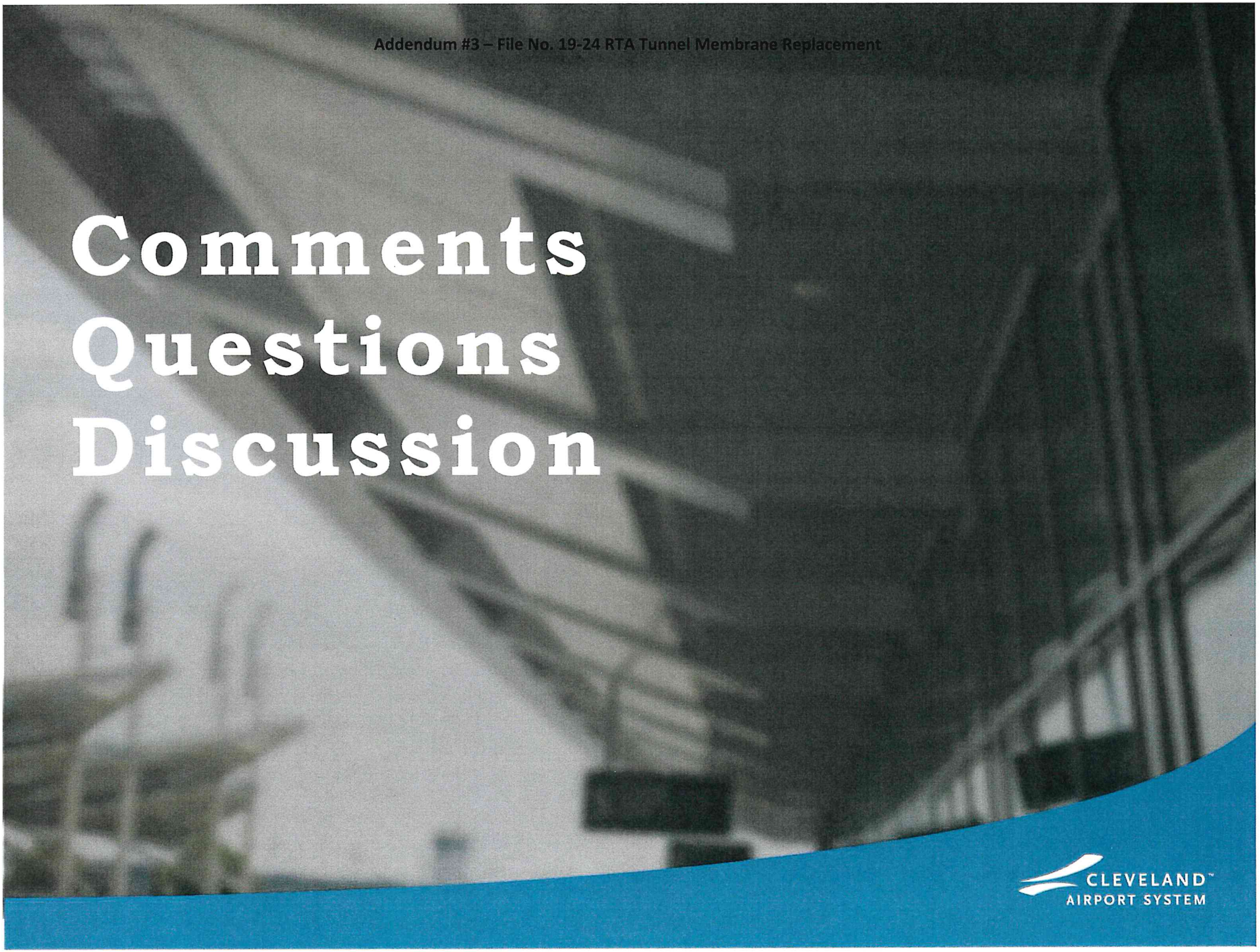
Fax (216) 664-2275

Deadline for all questions:

March 1, 2024 at 4:00 PM EST

Bids Due to the Division of Purchases and Supplies:

March 22, 2024 on or before 11:59 AM


Comments
Questions
Discussion
CLEVELAND
AIRPORT SYSTEM

Addendum #3 – File No. 19-24 RTA Tunnel Membrane Replacement

Cleveland Airport System

RTA Tunnel Membrane Replacement Pre-Bid Meeting Minutes

Pre-Bid Conference 2/23/2024 at 10am EST

Attendees:

Name	Representing
Michael Ibos	Michael Baker International
Nicole Bryan	Michael Baker International
Beau Williams	DPC Environmental
Bob Madden	
Erin Conroy	DPC
Eric Shuler	DPC Electrical
Eric Urdzik	DPC
Jason Weppelman	DPC OCI
Jeff Allshouse	DPC Security
Jeff Knittel	
Jules Gilliam	City of Cleveland
Kim McGreal	DPC Environmental
Lori Birschbach-Tober	DPC
Melissa Brkich	DPC
Roman Orinoco	DPC-OCI
Sharron Muia	DPC
Tony Bucco	DPC
Tristian Hooten	DPC
Zachary Randall	DPC

Notes:

- Next Addendum may be out Monday or Tuesday to add plumbing scope and footer drains.
- Final addendum will go out 3 days before bids are due and will include pre-bid meeting sign-in sheet, presentation, and answers to any questions received during bidding
- Bids due Friday, March 22 at 11:59 AM
- Question cut-off Friday 3/1 at noon
- Ibos went over the 4 major components of the project
  -Membrane Replacement
  -Mechanical Room Wall Repair
  -Footer Drain Replacement
  -Plumbing Modifications
- Reviewed the phases of construction – 120 days total
  -Phase 1 is the longest/biggest
  -Phase 2 is the south half of the remaining area
  -Phase 3 will be the area over the tunnel
  -Phase 4 includes the asphalt overlay
  -Phase durations will be added to the plans with the next addendum

- Roadway markings to be reinstalled in the existing locations so contractor must survey prior to removal.
- Power outages for electrical service relocations will be conducted between the hours of midnight and 4am.
- Discussed the proposed drainage including: locations where removal is required and where to tie-into the existing catch basins
- Reviewed the tunnel footer drain replacement. Design based on open cutting with stepped excavation. Contractor responsible for means and methods.
- Explained waterproofing system.
- Inverts are based on record drawings for the trunk lines in the RTA Connector/Collector.
- 8" PVC to replace the cast iron, no sanitary, all storm, the pit is in the mechanical room

Safety

- Safety management plans are key because of the impacts to the public and coordination is vital (security, airlines, TSA, will add terminal operations – due to bus impacts, etc.)

Security

- Mechanical room and EV-6 (card reader) are the only interior work and both are on the public side
- Badges for card swipes would be $65 for access to EVV-6 and the Mechanical Room
- Contractor will need to be badged to access EV-6 and the Mechanical Room
- ASO for the project will be required from the successful bidder.

Airport Operations

- Reviewed that all requirements in FAA AC 150-5370-2E.
- Movement inside the AOA fence will require an escort from Operations.
- Went over the service outages. Operations will need to be notified prior to shutdown.

Terminal Operations

- Phases 2 & 3 will have the most impacts to traffic but we will attempt to minimizing as much as possible
- No impacts anticipated to RTA Light Rail or Bus.
- Signage for rerouting the public will be provided by contractor as needed
- Access for public will be maintained at all times
- Keep noise levels as low as possible.
- Remove debris and keep it clean.
- Tools cannot be left out and perhaps behind a wall – contractor can lock in mechanical or electrical room at the end of day and during breaks
- Reviewed alternate locations for contractor to store their boxes

Office of Compliance and Inclusion

Jules Gilliam is the buyer for the project

- All questions must be submitted in writing to purchasing@clevelandohio.gov and/or jgilliam@clevelandohio.gov
- 216-664-2275, include name and file number for project
- March 21 by 4pm local time
- Initial to acknowledge any changes to bid form, ideally in a different color

Beau and Kim emphasized the environmental

- Airport holds 2 specific stormwater permits from the City
- Sediment and concrete washout must be managed and cannot end up in the stormwater system
- No discharging into the storm and any fees incurred will be passed along to the Contractor
- SWP3 must be managed properly

Question

Q: What is the file # that Jules referenced?

SOLAR TESTING LABORATORIES, INC.
Geotechnical and Environmental Engineering, Materials Testing, and Construction Inspection

1125 Valley Belt Road, Brooklyn Heights, Ohio 44131
Phone (216) 741-7007 • Fax (216) 741-7011
www.solartestinglabs.com

June 24, 2009

Mr. Lance Wanamaker, P.E.
Michael Baker Jr., Inc.
1228 Euclid Avenue, Suite #1050
Cleveland, OH 44115

Re: Asbestos Sampling & Analysis
C.H.I.A. – Terminal Lower Roadway
Cleveland, OH
STL Project No. A09258X26

Dear Mr. Wanamaker:

On June 19, 2009, Solar Testing Laboratories, Inc. (STL) obtained two material core samples from the Cleveland Hopkins International Airport – Terminal Lower Roadway over the terminal tunnel structure. A concrete coring machine mounted inside a van was used to obtain the core samples. Core samples penetrated the overlying road asphalt layer, the road concrete layer, and the asphaltic waterproof panel layer. Core sample locations and descriptions are as follows:

Core Sample I.D.	Material Description	Depth (inches)	Core Location
C-1	Asphalt	2.375	44 feet west of east end of island over tunnel
	Concrete	4.75	
	Waterproof Panel	~0.25	
C-2	Asphalt	1.75	34 feet west of C-1 location over tunnel
	Concrete	5.0	
	Waterproof Panel	~0.25	

The core samples were brought back to Solar Testing Laboratories, Inc., and one sample of the waterproof panel material from each core was submitted for Asbestos Analysis of Non-Friable Organically Bound Materials by PLM (EPA Method 600/R-93/116). See the attached Asbestos Laboratory Analytical Report.

Laboratory analysis results indicate the waterproof material sample 1C (from core C-1) has an asbestos content of 1.1% chrysotile fibers; and the waterproof material sample 2C (from core C-2) has an asbestos content of 0.7% chrysotile fibers. Since at least one sample of the asphaltic waterproof panel material has asbestos content greater than 1%, this material is classified as an asbestos containing material (ACM). Specifically, since the asbestos is interlocked in the asphalt portion of the material, the material is classified as a Category I non-friable ACM.

For renovation of structures, affected asbestos containing materials must be removed in accordance with the EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP): Asbestos (40 CFR Part 61, Subpart M revised November 20, 1990) and the OSHA Construction Asbestos Standard 29 CFR 1926.1101. The NESHAP rule states that Category I

non-friable ACM that will become friable by sanding, grinding, sawing or abrading, must be removed in accordance with NESHAP if the quantity removed exceeds 160 square feet. The OSHA rule states that for removal projects of Category I non-friable ACM in excess of 25 square feet where the material requires non-intact removal (for example, cutting which generates dust or tailings), OSHA Asbestos Class II removal procedures must be followed. Agency notification, worker asbestos certification and medical exams, personal air sampling, work area isolation, asbestos work practice, personal protective equipment, hygiene facilities, and proper waste disposal must be provided in accordance with the NESHAP Asbestos rule and OSHA Asbestos Class II removal rules.

Thank you for the opportunity to be of service in this matter. Please call the undersigned should you have any further questions.

SOLAR TESTING LABORATORIES, INC.

Robert J. Davis

Robert J. Davis, PE
Asbestos Hazard Evaluation Specialist # 33192
Asbestos Hazard Abatement Specialist #26976

RJD
Enclosures

ASBESTOS LABORATORY ANALYTICAL REPORT

EMSL Analytical, Inc.
2001 East 52nd St., Indianapolis, IN 46205
Phone: (317) 803-2997 Fax: (317) 803-3047 Email: indianapolislab@emsl.com

Attn: **Bob Davis**
Solar Testing Labs
1125 Valley Belt Road
Brooklyn Heights, OH 44131

Fax: (216) 741-7011 Phone: (216) 741-7007
Project: **Cleveland Hopkins Int'l Airport/Lower Roadway Tunnel, Cleveland, OHio**

Customer ID: STLI93
Customer PO: None
Received: 06/22/09 9:50 AM
EMSL Order: 160909300
EMSL Proj:
Analysis Date: 6/23/2009

Asbestos Analysis of Non-Friable Organically Bound Materials by PLM via EPA 600/R-93/116 section 2.3

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
1C *160909300-0001*		Black Non-Fibrous Homogeneous	97.3	1.6 Glass	1.1% Chrysotile
2C *160909300-0002*		Black Non-Fibrous Homogeneous	97.3	2.1 Glass	0.7% Chrysotile

Analyst(s)
Craig Nixon (2)

Richard Harding, Laboratory Manager
or other approved signatory

PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Negative PLM results can not be guaranteed. Samples report as <1% or none detected should be tested with TEM. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. The above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States government. Samples received in good condition unless otherwise noted.

THIS IS THE LAST PAGE OF THE REPORT.

Chain of Custody

Asbestos Lab Services

EMSL Analytical, Inc.
2001 East 52nd Street
Indianapolis, IN 46205

Phone: (317) 803-2997
Fax: (317) 803-3047
http://www.emsl.com

Please print all information legibly. 160909300

Company:	Solar Testing Laboratories, Inc.	*Bill To:*	Solar Testing Laboratories, Inc.
Address1:	1125 Valley Belt Road	*Address1:*	1125 Valley Belt Road
Address2:		*Address2:*	
City, State:	Brooklyn Heights, Ohio	*City, State:*	Brooklyn Heights, Ohio
Zip/Post Code:	44131	*Zip/Post Code:*	44131
Country:		*Country:*	
Contact Name:	Bob Davis	*Attn:*	Accounts Payable
Phone:	216-741-7007	*Phone:*	216-741-7007
Fax:	216-741-7011	*Fax:*	
Email:	bdavis@solartestinglabs.com	*Email:*	
EMSL Rep:		*P.O. Number:*	None
Project Name/Number:	Cleveland Hopkins Int'l Airport - Lower Roadway Tunnel Cleveland, Ohio		

MATRIX			TURNAROUND			
☐ Air	☐ Soil	☐ Micro-Vac	☐ 3 Hours	☐ 6 Hours	☐ Same Day or 12 Hours*	☒ 24 Hours (1 day)
☒ Bulk	☐ Drinking Water		☐ 48 Hours (2 days)	☐ 72 Hours (3 days)	☐ 96 Hours (4 days)	☐ 120 Hours (5 days)
☐ Wipe	☐ Wastewater		☐ 144+ hours (6-10 days)			

Need data by Tues. 6/23/16

TEM AIR, 3 hours, 6 hours, Please call ahead to schedule. There is a premium charge for 3-hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign an authorization form for this service.

***12 hours (must arrive by 11:00a.m. Mon -Fri.), Please Refer to Price Quote**

PCM - Air	TEM Air	TEM WATER
☐ NIOSH 7400(A) Issue 2: August 1994	☐ AHERA 40 CFR, Part 763 Subpart E	☐ EPA 100.1
☐ OSHA w/TWA	☐ NIOSH 7402	☐ EPA 100.2
☐ Other:	☐ EPA Level II	☐ NYS 198.2
PLM - Bulk	**TEM BULK**	**TEM Microvac/Wipe**
☒ EPA 600/R-93/116 w/* Gravimetric Reduction prep.	☐ Drop Mount (Qualitative)	☐ ASTM D 5755-95 (quantative method)
☐ EPA Point Count	☐ Chatfield SOP - 1988-02	☐ Wipe Qualitative
☐ NY Stratified Point Count	☐ TEM NOB (Gravimetric) NYS 198.4	
☒ PLM NOB (Gravimetric) NYS 198.1	☐ EMSL Standard Addition:	**XRD**
☐ NIOSH 9002:		☐ Asbestos
☐ EMSL Standard Addition:	**PLM Soil**	☑ Silica NIOSH 7500
SEM Air or Bulk	☐ EPA Protocol Qualitative	
☐ Qualitative	☐ EPA Protocol Quantitative	**OTHER**
☐ Quantitative	☐ EMSL MSD 9000 Method fibers/gram	☐

9300

Page 2 of 2

EMSL Analytical, Inc.

Asbestos

CHAIN OF CUSTODY

Revised January 1, 2000

Transmitted Robert Davis Date 6/19/09 Time 5:00 pm

Received: _____ Date: _____ Time: _____

SAMPLE NUMBER	SAMPLE DESCRIPTION/ LOCATION	VOLUME (If Applicable)
1C	Asphaltic Membrane	—
2C	Asphaltic Membrane	—

Note: Please conduct gravimetric reduction prior to PLM analysis. Analyze all layers separately.

Page ___ of ___

S Wells 9:50 AM 6-22-09