



City of Cleveland
Justin M. Bibb, Mayor

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March 26, 2024

ADDENDUM 2

**BID TITLE: File No. 30-24 2024 City Wards of Cleveland Public Improvements by
Contracts Construction Contract**

BID DUE: Wednesday, April 3, 2024 at 12 o'clock noon (Eastern Time)

Attention Bidders:

We have been requested to issue the addendum for the following:

Please ensure that a copy of this addendum is included and returned with the bid specifications furnished to you by this office, as it will have the same force and effect as if it were part of the specifications originally issued.

- Responses to Contractor Questions
- Revised Detailed Specifications
- Revised Schedule of Items
- Revised Master Index

Revised Curb Ramp Special Provisions

If you have any questions regarding the attached, please contact Steve Decker at 216-664-2624. Thank you for your prompt attention and assistance in this matter.

Signature of Potential Bidder & Name of Company

Today's Date

Thank you,

Donia Patterson, Assistant Administrator
Purchases & Supplies

CC:

Attachments

City of Cleveland
Mayor's Office of Capital Projects
Division of Engineering and Construction

Bid File 30-24
2024 Cleveland Public Improvement by Requirements Contract
(City Wards)

ADDENDUM #2
March 25, 2024

This Bid Addendum No. 2 is comprised of a total of forty-nine (48) pages total including four (4) pages for the Addendum.

This addendum supplements, amends, and supersedes the bid package Construction Plan and Contract and Specifications book and shall be a part of the contract documents. Please find attached the replacement for Detailed Specifications (21 pages), the Schedule of Items (13 pages), Master Index (1 page), and Curb Ramp Special Provisions (9 pages).

The proposed contract documents for this project are modified as indicated below.

CLARIFICATIONS

In response to the Contractor questions regarding construction plans and specifications, the following clarifications are given:

Clarification #1:

Please correct the Portland Cement item used for the Cold In Place Recycling to Tons.

Answer #1:

The Portland Cement Additive item has been corrected from gallons to tons.

Clarification #2:

FDR process can range from 12-24" in depth. The depth needs to be specified for estimating purpose as the deeper FDR's carry slow productions rates and higher costs. Please provide a general depth bidders should include in their unit price.

Answer #2:

The DS-24 specification has been changed to specify the top 2" of existing asphalt.

Clarification #3:

What will be the minimum amount of dollars per individual Task Order given?

Answer #3:

The items in this contract are on an as-needed basis as per DS-1, Project Scope and we cannot guarantee the minimum amount of dollars per individual Task Order.

Clarification #4:

Will a reference item for the use of rubberized tack coat be added?

Answer #4:

Rubberized tack coat will not be added to the bid items.

Clarification #5:

Will this contract expect to be carried into the 2026 season or have a completion date at the end of 2025?

Answer #5:

The contract end date is scheduled for July 2026.

Clarification #6:

Is there any required striping or signage included with the asphalt speed table?

Answer #6:

The striping will be paid for with the item, and will be two chevrons per direction lane. The signage will be paid for through contract bid items.

Clarification #7:

In the Table of Contents, Item 25 has an asterisk (*) which indicates that it "shall be completed and/or signed as part of the bid package". Is there something that the contractor is required to submit with their bid for these?

Answer #7:

The asterisk has been removed from the Table of Contents.

Clarification #8:

In the Table of Contents, Item 26 Affidavit, appears 2x in the bid documents. Is this required to be filled out twice?

Answer #8:

The affidavit is a two page form which must be filled out on both sides.

Clarification #9:

In the Notice to Bidders, Item 13 references an affidavit that must be signed with the bid? Is this different than the affidavit required in Item 26 of the Table of Contents?

Answer #9:

No, it is the same affidavit required in Item 26.

Clarification #10:

In the Bidder Checklist, Item F-4 mentions the Contract Employment Report (Item 12, Page 1 – Schedule 1). This appears to be missing from our bid document set.

Answer #10:

The form can be found in Item 33 in the Table of Contents under OEO Notice to Bidders, as Schedule 1: Project Contact Information Form.

Clarification #11:

Do the OEO sheets require original signatures or can these be scans in order to get the proper contractors listed on them? Also, there is a note about available fillable PDFs on the OEO website that is the preferable format for submitting the OEO Schedules as part of our bid. Will these be required to be on yellow paper as they are in the original bid document?

Answer #11:

The preference is for original signatures, but the OEO sheets can be scanned and copied. These forms do not need to be on yellow paper, but the information must be accurate.

Clarification #12:

In the Bidder's Checklist, Item K references required information for the Project Plan and Item L references Contractor Qualifications from Part 1 of Item 8. What are these in reference to? There does not appear to be any form in the bid documents relating to these.

Answer #12:

The City does not have plans or Contractor Qualifications for this contract, so please place an N/A at Item K and Item L.

SPECIFICATION BOOK REVISIONS

Specification Revisions:

This addendum includes revisions to the Detailed Specifications (DS) that include the depth for specification DS-24, Cold-in place Asphalt Recycling.

Schedule of Items Revisions:

Reference No. 45, COLD IN PLACE PORTLAND CEMENT ADDITIVES unit has changed to TONS.

TABLE OF CONTENTS REVISIONS

The asterisk has been removed from the Asphalt and Rubber Speed Tables.

CURB RAMP SPECIAL PROVISIONS REVISIONS

The truncated dome tiles suppliers shall be as per ODOT's approved product list and subject to approval by the Construction Section Chief.

THE BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM #2 BY SIGNING BELOW AND ATTACHING THIS PAGE TO THE BID

Signature of Bidder

Date

DS – SUPPLEMENTAL DETAIL SPECIFICATIONS-ADDENDUM 2

DS-1 PROJECT SCOPE

The Contractor shall perform only such work under this Contract as the Administrative Manager of the Division of Engineering & Construction, or the Manager's designee, orders by signed task order with, when necessary, one or more plan attachments.

The Division intends to utilize all unit items listed in this Contract on an "as needed" basis for existing and new construction ordered. Task orders may include, but are not limited to, reconstruction of existing infrastructure in the City's Right-of Way (Roadways, sidewalks, and related infrastructure), maintenance of existing infrastructure in the City's Right-of-Way (Resurfacing and pavement replacement), or new roadway construction. The Task Orders are City Wide and are for concrete and asphalt construction as per the work tasks issued for the contract.

The Contract is subject to having at least two (2) separate crews. The City reserves the right to require additional crews as needed to complete the work. A crew will consist of all equipment and manpower required to complete the work within the allocated time as determined by the City.

DS-2 MOBILIZATION AND MAINTENANANCE OF TRAFFIC (ITEM SPECIAL)

This work shall consist of Mobilization and Maintenance of Traffic for Task Orders assigned.

Mobilization cost shall be a 5% lump sum cost per the total overall cost of each task order. This cost is inclusive of all costs related to same, and no additional separate payment or compensation will be made towards mobilization in this contract.

Maintenance of Traffic cost shall be a 5% lump sum cost per the total overall cost of each task order. This cost is inclusive of all costs related to same, and no additional separate payment or compensation will be made towards the maintenance of traffic in this contract.

The unit item cost shall include work and all incidentals necessary to mobilize onsite and maintain vehicular and pedestrian traffic with the exception of advance parking notice signage, the MOT plan, and detour routes, which shall be provided by the Division of Traffic Engineering through the Engineer. Law enforcement officers shall be provided through the Cleveland Police Department unless otherwise indicated under a separate bid item. The contractor shall furnish and maintain all necessary safeguards as detailed in ODOT Item 614 Maintaining Traffic so as to avoid damage and/or injury to vehicles and persons using the roadway during construction.

Examples of incidentals for mobilization include, but are not limited to, fuel costs, hourly equipment costs, and all labor, operator, supervisor, or administration costs for same. Examples of incidentals for maintenance of traffic include, but are not limited to, traffic compacted surface (Type A or B), temporary asphalt concrete walk, temporary ramping of driveways and/or castings, work zone pavement markings and signage, plastic drums, Type III barricades, lighting, flaggers, and administrative costs for same.

Unless directed by the Engineer, safe and satisfactory access for abutting properties and adjacent streets shall be maintained AT ALL TIMES by the Contractor through the use of partial width construction. The contractor shall divert traffic from normal channels through the use of plastic drums, traffic signs, and pavement markings as per the task order MOT plan. All construction traffic control devices used shall conform to the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) for streets and shall be furnished, erected, maintained, and removed by the Contractor with the exception of the advance parking notice signage.

All existing lanes shall be open to traffic between November 15 and March 15.

Two-way traffic shall be maintained at all times on the side streets adjacent to the roadway location listed in the task order and is incidental to the maintenance of traffic work.

The Contractor shall furnish and supply water for dust control as directed by the Construction Section Chief at no cost to the City.

The construction drums and signage which become damaged by traffic for reasons beyond the control of the contractor shall be replaced in kind at no cost to the City when ordered by the Construction Section Chief.

The acceptance and payment of the maintenance of traffic is subject to the Contractor setting a proper zone for the work as per the OMUTCD. At the acceptance of the task order completion, all maintenance of traffic items shall be removed at no cost to the City when ordered by the Construction Section Chief. In no case shall maintenance of traffic items be stored or remain in the right-of-way for more than thirty days.

DS-3 MAINTAINING PEDESTRIAN ACCESS

Pedestrian Access to all property owners, including residences and businesses, shall be made available at all times during construction. The contractor shall make available during the construction, steel plates, bridges, or other means approved by the engineer to bridge across open excavations to provide pedestrian access full time (24hr-7days a week) to abutting properties at locations determined by the Superintendent of Sidewalks. A minimum of 72 hours prior to starting the removal of any paved surface the contractor shall inform the residents by letter approved by the Superintendent of Sidewalks stating the extent of work, start of work date and a 24 hour phone number in which the contractor can be reached in case of emergency.

DS-4 COMPLETE IN PLACE ITEMS

Items labeled "COMPLETE IN PLACE" in their item description shall include all the work necessary to accomplish the job; the work may include but not restricted to the following : saw-cut, removal, disposal, minor excavation, sub-grade compaction, furnishing and providing required sub-grade, dowelling holes, dowels, reinforcement, all form and material to build the structure, providing or cutting joints, joint fillers, joint sealers, curing agents, surface treatments, all surrounding disturbed area restoration and other relevant work which is necessary but not being paid separately.

DS-5 CONSTRUCTION SCHEDULE

This specification replaces Part C-9 Contractor Schedule in the Supplemental Conditions:

For each task order, the Contractor shall provide, at a minimum, a completion date for the work. The Contractor shall also furnish weekly schedule updates during active construction seasons. Progress meetings will be scheduled weekly during the active constructions season.

If requested by the Construction Section Chief, the Contractor shall provide two (2) copies of the current construction schedule. This schedule must be provided within five (5) days of receipt of each task order. The failure to providing a schedule in the allocated time will be considered a delay in the completion of the work.

The schedule duration for most local street resurfacing is expected to be no more than three weeks after the beginning of milling operations. The schedule will also include the clean-up and restoration of the task order site work which will occur within fourteen (14) days after the completion of the task order work along with removal of all forms, pins, and any other items brought to the site by the Contractor.

An excusable delay in the completion of the task order work is defined in Part B-6 of the General Conditions. An extension of time to the task order schedule will be granted for reasons as stated in Part B-6 and as determined by the Construction Section Chief. No other compensation will be provided for delays in the completion of the work.

DS-6 MODIFICATION TO D-6, (ELEVATIONS AND DIMENSIONS (ITEM 105, SPECIAL))

The City may, at its option, furnish the contractor elevations which are not sea level datum. If the City furnishes elevations referring to another datum, the elevations furnished shall include the location and elevation of the datum used.

DS-7 MODIFICATION TO D-47 (CONSTRUCTION LAYOUT STAKES (ITEM 632))

The cost of performing the work described in D-11 should be included in the contract Items which require laying out or staking. Cost for Construction layout staking shall be considered incidental to other bid items and no separate compensation will be provided for this work.

DS-8 MODIFICATION TO D-20 (LINEAR GRADING (ITEM 203))

Paragraph 3). Containing 4 lines is deleted and replaced with the following:

Linear grading shall be performed on all contiguous areas receiving either sod or seeding greater than 18” in width and all other high or low spots as directed by the inspector.

All liner measurements for this item shall be made along the street side of the sidewalk, excluding the space occupied by driveways. Each liner foot of linear grading shall

include all areas; behind; and in front of the sidewalk, behind the curb, the full width of the tree lawn and the area alongside the driveway to the extent they are present.

DS-9 MODIFICATION TO D-66 (SEEDING AND MULCHING (ITEM 659)) AND D-68 (COMMERCIAL FERTILIZER (ITEM 659))

All of the costs to perform these Items of work shall be included in the unit price bid for “Seeding and Mulching.”

DS-10 ADA CURB RAMP (CR-1 THRU CR-11) COMPLETE IN PLACE WITH TILE, INCLUDING LAYOUT (ITEM 608)

The contractor shall remove existing ramp, sidewalk and curb and install the curb ramp type, as per the City Standard Construction Drawings on a per corner basis. Red Tinted Plastic Truncated Dome Tiles as manufactured by ADA Solutions Inc. shall be used (see Curb Ramp Special Provisions). Curb ramp type as specified or modified shall include the cost for layout, installation of 8-inch walk within the ramp and landing areas, curb, tile, and sawcutting, as specified elsewhere in the plans/specifications/City of Cleveland Standard Curb Ramp Details. All work including Item 608- 4” Concrete Walk (which includes sidewalk in transition/adjacent areas) and sidewalk removal under ODOT Item 202 – Walk Removed shall be included in the lump sum cost per specified item. The lump sum cost shall also include cost for excavation and restoration.

DS-11 GRINDING OF CONCRETE CURB (ITEM SPECIAL)

This item shall be used to remove up to the top 1” of the existing concrete curb in order to facilitate the installation of an ADA complaint curb ramp, or grind the curb in front of an existing curb ramp which does not meet ADA curb ramp lip requirements in areas where the existing curb is not being removed and replaced.

The work shall include grinding an existing concrete curb varying in length between 4 feet to 7 feet using a suitable powered grinding machine which shall be capable of producing a smooth and straight surface either parallel to pavement gutter slope or at an angle to the top of the curb. The finished ground surface shall be in the shape of the curb ramp as per detail the Curb Ramp Standard Drawings with a nominal 4 feet wide base up to a one foot flare section on each side. After grinding no sharp edges shall remain and the lip on the front face (pavement side) of the curb shall be 0 (zero) inches. After the grinding the slope of the curb shall meet ADA slope requirement.

The length of each grinding shall be marked in the field by the engineer. The marked length of each grinding shall be used as a payment length for grinding at each location.

The grinding shall be performed at various locations as directed by the engineer, and shall include all incidental work items required to perform this work.

The contractor is advised that this grinding will be coordinated with the City of Cleveland street resurfacing and sidewalk reconstruction program, which usually proceed on a street by street basis.

DS-12 HORIZONTAL SAW CUTTING OF CONCRETE CURB (ITEM SPECIAL)

This item shall be used to remove the top 1” to 7” of the existing concrete curb in order to facilitate the installation of an ADA compliant curb ramp in areas where the existing curb is not being removed and replaced.

The work shall include horizontal saw cutting existing curbs varying in length between 7 feet to 18 feet using a suitable concrete power saw which shall be capable of producing a smooth and straight saw cut either parallel to pavement gutter slope or at an angle to the top of the curb. The saw cut shall be in the shape of the curb ramp as per detail in the Curb Ramp Standard Drawings with a nominal 4 feet wide base and 1’-6” to 7 foot flare sections, if required. After parallel saw cutting and beveled grinding to remove any sharp edges, the lip on the front face (pavement side) of the curb shall be 0 (zero) inches. After the saw cutting and beveled grinding to remove sharp edges, the slope of the angled cut in the curb shall meet ADA slope requirement.

The length of each parallel and each angled saw cut shall be marked in the field by the engineer. The marked length of each parallel and each angled saw cut shall be added together to determine the payment length of horizontal saw cut at each location.

The cost of bevel grinding shall be included in the bid unit price per linear foot of horizontal saw cut. The horizontal saw cut shall be performed at various locations as directed by the engineer, and shall include all incidental work items required to perform this work.

The contractor is advised that this saw cutting will be coordinated with the City of Cleveland street resurfacing and sidewalk reconstruction program, which usually proceed on a street by street basis.

DS-13 BRICK PAVER (COMPLETE IN PLACE) OR BRICK PAVER PAVEMENT RESTORATION

This work shall consist of furnishing and placing salvaged brick pavers and/or cleaning and resetting existing brick pavers on a 1” sand setting bed on an existing or new base in reasonably close conformity with the lines, grades and typical sections shown on the plan or established by the Construction Chief.

QUALITY ASSURANCE:

All contractors or subcontractors performing work under this Section shall be qualified to do such work and hold the appropriate registration, license or other permits as required by State or Local law.

Salvaged clean brick pavers of same size and composition matching the existing pavement shall be used when additional brick pavers are needed for brick pavement restoration. Store and handle materials in a manner to prevent damage or contamination by water or foreign matter.

BRICK WALKWAYS (PAVERS ON 1" SAND SETTING BED):

Brick walkways shall be constructed to the lines, grades and details shown on the drawings. Pattern shall be bond pattern as shown on the details. Mix and blend pavers as they come from several cartons to insure a random distribution of shades throughout the installation.

Portland cement concrete base, when required, shall be constructed of concrete conforming to detail specifications. Construction of Portland cement concrete base shall conform to the applicable requirements of ODOT Specifications Item 452 or Item 608, except as modified herein, and shall be paid as 9" Plain Concrete or 4" sidewalk.

Brick sizes shall be 4 x 8 x 2-1/4" thick or 4 x 8 x 3" or 3 1/8" thick as required. Pavers to have beveled edges, rounded corners and integral spacer nubs. Brick samples shall be submitted for approval prior to installation. Brick pavers with chips, cracks, stains, or other defects which might be visible in the finished work shall not be used.

Brick pavers shall be set true to the required lines and grades in the pattern detailed on the drawings. Brick pavers shall be neatly cut and fitted at all perimeters and closures, to fit neatly and closely with joints uniform in thickness. Pavers shall be cut with a water-cooled, cut-off wheel masonry saw using a diamond blade.

Joint between pavers shall be hand tight relative to spacer nubs on pavers. Joint filler shall be swept dry into the joints between pavers until the joints are completely filled. Surface shall be swept clean. Swept surface shall then be thoroughly dampened with a low-volume fine spray of water.

After completion of brick paving, surfaces shall be carefully cleaned, removing all dirt, excess joint filler, sealant, and stains. Newly laid pavers shall be protected at all times by sheets of plywood on which the pavers' installer stands. The plywood can be advanced at work progresses. However, the plywood protection must be kept in areas which will be subjected to continued movement of construction materials and equipment. These precautions shall be taken in order to avoid depressions and protect and maintain paver alignment. Abutting surfaces of dissimilar materials shall be fully protected from damage or staining from all operations under this work.

Payment for brick walkways will be made on a unit price basis per square yard including sand setting bed, brick pavers, expansion joints and all other incidental work required to construct the brick walkways complete. Also included with this item will be 1 1/2" weep holes at 48" on center and a two (2') foot strip of filter fabric 709.12 Type D as per detail.

DS-14 GRANITE CURB RESET (ITEM 609)

The contractor shall reset the existing granite curb salvaged onsite as per the City Standard Construction Drawings and this Detailed Specification. The construction of this item is "complete in place" and includes all labor, materials, and equipment necessary for the complete construction of the item. This work shall include, but is not limited to, all excavations, embankment, removal of obstructions, installations of materials, bedding and back filling and all other work pertaining to the construction of this item.

The payment for this contract price bid shall also include all of, but not be limited to, the following work:

1. Excavation and disposal of the excavated material to the width and depth required to install the curb.
2. Furnishing and installation of the concrete bid as per City standards. The bedding shall be continuous, 10 inches in width and 6 inches in depth.
3. Prior to placing the granite curb, a string line shall be installed true to the vertical and horizontal alignment of the proposed curb. The curb shall then be placed, ensuring the granite curb is set true to line and grade. If necessary, trim the granite curb prior to resetting. If the condition of the end faces preclude making a neat butt joint (when the blocks are placed the maximum gap between the blocks should be less than or equal to 1/8 inch), then the end face(s) of the granite curb blocks should be sawn prior to the placement of the blocks.

DS-15 GRANITE CURB INSTALLATION (ITEM 609)

The contractor shall furnish and install granite curb as per the “Standard Details Showing Granite Curbing” as per the City Standard Construction Drawings. The construction of this item is “complete in place” and includes all labor, materials, and equipment necessary for the complete construction of the item. This work shall include, but is not limited to, all excavations, embankment, removal of obstructions, installations of materials, bedding and back filling and all other work pertaining to the construction of this item.

The contractor shall submit supplier shop drawings for this item and receive acceptance from the Engineer in writing prior to ordering material. Granite material installed which has not been approved by the Engineer shall be replaced with approved materials at the contractor’s cost.

Payment will be made at the contract price bid for:

ITEM	UNIT	DESCRIPTION
609	Foot	6” Granite Curb
609	Foot	8” Granite Curb

DS-16 CONCRETE PAVEMENT (ODOT ITEMS 305, 451, & 452)

DESCRIPTION - This item replaces specification D-23. This item shall conform to ODOT Items 305,451, & 452 with the following exceptions:

GENERAL - The Contractor under this section of the specifications shall construct a concrete pavement, sidewalk, driveway aprons, curb, curb and gutter sections, handicap ramps, and integral radius curb and walk on prepared base. This includes the restoration of all adjacent surfaces which are disturbed by this construction and not scheduled to be restored under a separate item of payment.

MATERIALS - The concrete used shall be the concrete design mix as per DS-17, as appropriate, of these specifications unless otherwise authorized in the detailed specifications by the Division of Engineering and Construction. The cement, water, aggregate, preformed filler, joint sealer, curing materials, reinforcing steel, dowel bars and basket assemblies, and all other materials necessary to construct the concrete shall be included in the bid unit price.

GRADING AND EXCAVATION

1. Grading: Grading shall include all excavation, fill, and embankment required to permit the construction of the proposed pavement, sidewalk, driveway aprons, and curb to the designated lines and grades.
2. Excavation: Except as otherwise ordered, excavation at the elevation of the finished grade of the construction shall extend one (1) foot beyond each edge and then on a slope of one (1) vertical to one and one-half (1-1/2) horizontal and shall be paid for as excavation at the price per cubic yard for such work as it appears on the price sheet of the contract.
3. The Contractor shall use extreme care in the removal of pavement, sidewalk, driveway aprons, and curb, to ensure that no adjacent slabs beyond those marked for removal by the City Inspector will be disturbed, removed or damaged. If damaged, either in whole or in part, other than that which is marked for removal by the City Inspector, the Contractor shall remove and replace said damaged slabs without cost to the City.

FILL OR EMBANKMENT

Fill or embankment shall be ODOT Item 203-Embankment as per plan notes and meet the following requirements:

1. It shall be substantially free from vegetable or organic matter and shall contain not more than ten (10) percent of loam or clay.
2. It shall weight not less than ninety (90) pounds per cubic foot, dry compacted weight.
3. The upper six (6) inches of embankment outside of the edge of the sidewalk, driveway apron or curb shall be topsoil or excavated material approved by the engineer (No sand).
4. Fill shall extend at least one and one-half (1-1/2) feet beyond each side of the construction unless otherwise ordered or permitted. Side slopes shall be trimmed to a slop of one (1) vertical to one and one-half (1- 1/2) horizontal, except as otherwise ordered by the City.
5. The fill material shall be thoroughly compacted by tamping or rolling, or both, so as to produce a solid dense sub-grade.

DELIVERABLES

All concrete delivered shall be subjected to any or all tests described in the project specifications. All concrete failing any of these tests shall be removed and replaced as many times as necessary, until it passes all required tests. The removal and replacement shall be at no cost to the City.

1. Rejected Trucks and Loads - Any truck and its load of concrete rejected for failure to meet all the requirements of herein as stated above shall also be banned from all construction sites covered by this section of the specifications.
2. All of the various types of pavement, sidewalk, driveway aprons, curb or any combination thereof shall be constructed as per these specifications, plans, and the details as shown on the respective Standard Construction Drawings except as otherwise directed by the Construction Section Chief.
3. The thickness of the pavement, shall be increased as indicated on the plans or as directed by the Engineer.
4. It shall be the Contractor's responsibility to raise all municipally owned utility castings to finished grade of new work. Adjusting these castings to new grade shall constitute a separate item of work and payment.
5. Non-municipally owned castings are the responsibility of their respective owners to adjust to the proper grade, but coordinating the work is the responsibility of the Contractor. Adjusting these castings to the new grade shall not be paid for under this contract.

PLACING CONCRETE

1. No concrete shall be poured until the inspector has approved the preparation of the foundation bed.
2. If any concrete is poured without the observation by the inspector or without the prior approval of the foundation bed, the concrete poured shall not be accepted and may be removed/replaced at no cost to the City.
3. No concrete showing segregation or clumps of material shall be deposited in the work.
4. Immediately prior to the finishing of the surface, the concrete shall be cut into slabs not longer than six feet (6') on any one side for walks and driveways. Pavements shall be cut as per plan details and Standard Construction Drawings. The joints shall be formed by a cutting tool or some other means satisfactory to the City and shall not be less than one-quarter (1/4) of the depth of the slab. All edges shall be rounded, with an approved edging tool, to a radius of one-quarter inch (1/4").

SURFACE FINISH

The finishing of the concrete shall immediately follow the placing and compacting of the concrete. Unless otherwise ordered, a broom finish shall be required. Rubbing with floats or other acceptable method shall be done only at the direction of the Engineer. All concrete slabs shall be edged around the entire perimeter unless otherwise directed by the Engineer. The surface shall be free from depressions and inequalities.

The application of dry cement or a finishing agent is prohibited.

EXPANSION JOINTS

1. Prepared strips of approved QPL preformed expansion joint material meeting the requirements of 705.03 of the ODOT Construction and Material Specifications shall be one-half inch (1/2") in thickness and of sufficient width to extend the entire depth of the concrete. They shall be placed in such a manner that the joint will be filled to within one-half inch (1/2") of the finished surface of the walk. Joints shall be constructed at intervals no greater than fifty feet (50') in all sidewalks, driveway aprons, curb and gutter section, cast-in-place curb and integral curb and walk unless otherwise ordered. Pavement expansion joints shall be placed as per plan details.
2. Preformed expansion joint filler shall be one-half inch (1/2") in thickness and meet the requirements of the ODOT CMS 705.03, the producer shall be included on the ODOT QPL list. Construct expansion joints according to the standard construction drawings. All joints shall be sealed according to ODOT 451.16.
3. Joints shall be placed where the walk abuts curbing or other lateral walks and along the building line where the walk is placed full width from the curb to the building or other structures or as otherwise directed by the Inspector in the field. The edges of all joints so placed shall be rounded as herein before specified. The cost for expansion joints shall be included in the unit price bid for the respective items of work.
4. Where new concrete curb or the curb portion of integral concrete radius curb and walk abuts existing pavement, a three-quarter inch (3/4") thick preformed expansion strip as called for in 705.03 of the ODOT Construction and Material Specifications shall be placed to separate the pavement and curb. The upper one-half inch (1/2") of the joint shall be hot sealed as per 705.04 of the ODOT Construction and Material Specifications.

CONTRACTION JOINTS

All concrete for ADA ramps, sidewalks, and driveways shall have retraced picture frame tooled edge joints.

ODOT Item 305 – Portland Cement Concrete Base shall meet all requirements for Item 452 – Non-Reinforced Portland Cement Concrete Pavement. All jointing and transfer devices are to be installed. The concrete shall have a broom finish.

HOT AND COLD WEATHER WORK

Hot and cold weather protection (Blankets, heaters, ice, etc.) shall be included in the unit bid price.

MEASUREMENT & PAYMENT

The quantity as provided shall be paid for at the applicable contract price per unit of measurement, which price and payment shall be full compensation for all materials, labor, equipment, tools, power, transport, delivery, disposal, and any incidentals necessary to complete the work required by this section of the specifications.

DS-17 CONCRETE DESIGN MIX

GENERAL - This supplement entirely supersedes D-24 “CONCRETE DESIGN MIX>’

Any and all references to D-24, “Cleveland 650”, or other cast in place concrete shall direct to this specification.

DESCRIPTION - This item replaces specification D-24. This work shall include furnishing and installing cast in place concrete pavements, curbs, walks, ramps, foundations, structures, walls, etc., and any other appurtenances needed to complete the work per ODOT C&MS Item 499 Concrete – General, other relevant sections of the ODOT C&MS, and as shown in the plans and herein specified.

SUBMITTALS - The contractor shall submit all current, ODOT approved, Job Mix Formulas (JMFs) proposed for the work for review and approval. Submittal of each JMF shall include the ODOT approval documentation. The contractor shall provide batch plant tickets per ODOT C&MS 499.07 and the ODOT Construction Administration Manual of Procedures (MOP).

MATERIALS - All applicable cast-in-place concrete work items specified herein shall be bid and supplied using materials and the concrete mix design specified in this section and per ODOT C&MS 499.

Concrete mix designs shall be as specified for the individual items, and shall be as per Ohio DOT Class QC according to the following:

1. Pavement shall be Class QC1 or Class QC1P
2. Medium-Fast Set shall be Class MS
3. Fast Set shall be Class FS
4. Substructure shall be Class QC1
5. Superstructure shall be Class QC2
6. Mass Concrete shall be Class QC4
7. Drilled Shaft shall be Class QC5

JMFs proposed by the contractor shall be as appropriate for the classes above per the ODOT C&MS. Only approved JMFs shall be used where designated.

EXECUTION - The contractor shall furnish and prepare concrete ready for placing in accordance with ODOT C&MS 499 and the ODOT MOP.

Cast in place concrete shall be placed and cured on or in properly prepared bases, forms, etc. per the relevant sections of the ODOT C&MS and MOP.

LIMITATIONS

For work items other than structural items (500 series), the following limitations apply without exception:

1. Admixtures containing chlorides shall not be used except for Type C accelerating admixtures or calcium chloride for QC-FS only. Chloride containing concrete, other than QC-FS, shall be grounds for rejection and replacement by the Contractor at no cost to the City.
2. Class MS or Class FS concrete shall not be substituted for standard concrete without prior written approval of the City Engineer and clear location demarcation submitted prior to placing such concrete. Substitution without written approval shall be cause for rejection and replacement by the Contractor at no cost to the City.

For structural work items (500 series), the following limitations apply without exception:

1. Admixtures containing chlorides shall not be used.
2. Class MS or Class FS concrete shall not be used.

HOT AND COLD WEATHER WORK

Hot and cold weather protection (Blankets, heaters, ice, etc.) shall be included in the unit bid price.

MEASUREMENT AND PAYMENT- Payment for accepted quantities of the work described herein, complete in place, shall be made at the contract unit price bid for these items. This shall include all tools, labor, materials, equipment, power, transport, delivery, and disposal necessary to complete this item of work as described, and to the satisfaction of the Engineer.

DS-18 SURCHARGE FOR WINTER CONCRETE WORK
(ITEM SPECIAL)

It may be necessary to perform concrete work in weather less than 35 degrees and if nighttime or daytime temperatures are expected to be less than 35 degrees. In that situation, the City will compensate the Contractor to; thaw and protect the subgrade/subbase, provide cold weather protection for new concrete, and any other work deemed necessary to comply with the requirements of pouring in cold weather.

Contractor will be required to submit a comprehensive cold weather protection plan to the City for review. Cost for providing all the above work including covering and protecting of subgrade, aggregate base, and concrete with blankets shall be included in the square yard price for this item.

DS-19 STREET TREE WARRANTY

Provisions of the Contract, including General and Supplementary General Conditions and General Requirements, apply to the Work specified in this Section.

A two (2) year warranty shall be provided on all trees planted. During the warranty period, the contractor shall provide and fill watering bags to promote establishment and growth. All costs to ensure the warranty period are incidental to the work and no additional compensation will be granted to the contractor for this work.

Warranty trees for a period of one year after date of substantial completion, against defects including death of unsatisfactory growth, except for defects resulting from neglect by Owner, abuse or damage by others, or unusual phenomena or incidents which are beyond the City Forester's control.

Remove and replace trees, shrubs, or other plants found to be dead or in unhealthy condition during warranty period.

DS-20 ITEM 630 – RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY, COMPLETE IN PLACE

DESCRIPTION - This work shall consist of furnishing and installing a Rectangular Rapid Flashing Beacon 2-way pushbutton activated sign assembly and pedestal pole and base, complete in place. The assembly shall be powered by a solar-powered battery and shall use wireless activation by pedestrian activated pushbutton. The RRFB shall be in conformance with all applicable MUTCD standards and guidelines, and shall exceed the minimal requirements specified in FHWA Memorandum IA-11, Interim Approval for Optional Use of RRFB and subsequent amendments.

MATERIALS – The contractor shall provide the following unless otherwise instructed in writing by the engineer:

1. Pole mount cabinet and controller with back panel and associated wiring
2. 50-watt solar panel assembly for 4-1/2" pedestal pole with rotatable mount
3. 40-ampere hour, 12VDC AGM battery
4. Countdown timer
5. Spread spectrum wireless radio operating on a 900 MHZ frequency
6. Federal yellow 5 RRFB wrap around light bar for 4-1/2" pedestal pole with 5 RRFB lights with each RRFB indication lens to be a minimal size of approximately 5" wide by 2" high
7. 14 foot high 4-1/2" OD aluminum pedestal pole, breakaway base, support collar, sign mounting hardware
8. Pedestrian pushbuttons with signs that include the legend "Push Button to Turn on Warning Lights" mounted adjacent or integral with each pushbutton

All sign assemblies shall use anti-vandal fasteners to mount components to sign and sign to fixture.

The pedestal pole and base shall be field adjusted to maintain the proper sign mounting heights. Pole and base manufacturer shall be listed on ODOT's Qualified Products List. The pedestal pole and base shall be painted as per Traffic Engineering's requirements.

The RRFB shall be manufactured by Electrotechnics Corporation or approved equal. Shop drawing certification shall be furnished and approved by the Engineer prior to purchasing RRFB. The Engineer may require additional certifications as directed by the Division of Traffic Engineering for approved equal RRFB.

CONSTRUCTION DETAILS - The exact field location for RRFB's to be provided by the Division of Traffic Engineering and/or MOCAP. The Contractor shall install as per manufactures requirements and the City of Cleveland specifications.

The RRFB's unit indications shall be set to flash in an alternating "Wig-Wag" flashing sequence (Left light on and then right light on). All RRFB light indications shall be wirelessly synchronized (All lights will turn on within 120 msec and remain synchronized throughout the duration of the flashing cycle). Each of the RRFB's indications shall flash 70 to 80 flashes per minute.

The RRFB unit shall also have low current/high output capabilities, including automatic dimming, for day and night visibility.

METHOD OF MEASUREMENT - The City will measure the item complete in place, including all materials, testing, labor, and software for a fully functional unit.

BASIS OF PAYMENT - The RRFB will be paid for at the contract unit price per each for Item 630-Rectangular Rapid Flashing Beacon (RRFB) Sign Assembly, Complete in Place, as per plan. Mobilization and Maintenance of Traffic shall be considered a separate cost to the installation of the item as per DS-26.

DS-21 INSTALLATION OF SIGNAL POLE OR STRAIN POLE

DESCRIPTION - This work shall consist of installing signal poles and strain poles as shown on the plans and at locations designated by the Engineer.

MATERIALS – The signal and strain pole materials will be provided by the City of Cleveland’s Division of Traffic Engineering at their shop. Delivery to the site will be performed by the Contractor.

EQUIPMENT - The Contractor shall provide equipment for installing traffic signal poles as detailed in ODOT SCD TC-81.21 and strain poles as detailed in ODOT SCD TC-81.10.

METHOD OF MEASUREMENT - The accepted traffic signal or strain poles placed in accordance with these specifications and as directed will be measured for the cost of labor and equipment on a per each basis. Materials required but not provided by the Division of Traffic Engineering will be accounted for by Force Account.

BASIS OF PAYMENT - The accepted quantities for this item will be paid for at the contract unit price on a per each basis, which price and payment shall be full compensation for furnishing all labor, tools, and equipment for doing all the work involved in completing this item. Material costs not furnished by the Division of Traffic Engineering shall be paid through the Force Account. The City Traffic Engineer or his designated representative will confirm quality of work prior to release of payment of this work item.

ITEM	UNIT	DESCRIPTION
630	Each	Installation of Signal Pole or Strain Pole

DS-22 FOG SEAL

DESCRIPTION - This work consists of the application of an emulsified asphalt-based fog seal to a newly constructed or previously constructed chip seal surface.

MATERIALS – Choose from the fog seal approved product list maintained on the Office of Materials Management’s (OMM) webpage. Fog seal must be on the approved list at time of placement and meet requirements on file at OMM. Provide certified test data for the supplied fog seal to the Engineer. Do not dilute after the material has been shipped from the supplier.

Ensure fog seal does not contain filler such as clay. Ensure fog seal is not frozen at any time. Prior to placement, provide a copy of supplier application instructions to the Engineer.

Apply approved fog seal as required below and in accordance with supplier application instructions.

EQUIPMENT - Provide fog seal distribution equipment that meets the requirements of ODOT CMS 422.03. Operate equipment per the distributor manufacturers' instructions for distributor settings, including but not limited to the spray bar nozzles, angles, heights, and settings. Control temperature of the emulsion in accordance with supplier's requirements. Ensure equipment is free of all old emulsion. Thoroughly clean distribution equipment if chemical incompatibility exists between the product chosen and any emulsion residue left in the distributor.

SURFACE PREPARTION - Clean the pavement in accordance with ODOT CMS 407.05. Cover the prismatic retro reflectors in any existing raised pavement markers with a suitable material or use another approved method to ensure they remain clean and effective after the work is completed. Weather limitations shall follow the requirements of ODOT CMS 422.04.

BASIS OF PAYMENT - The accepted quantities for this item will be paid for at the contract unit price on a per gallon basis, which price and payment shall be full compensation for furnishing all labor, tools, and equipment for doing all the work involved in completing this item.

ITEM	UNIT	DESCRIPTION
Special	Gallon	Fog Seal, as per DS-19

DS-23 HOT IN PLACE ASPHALT RECYCLING

DESCRIPTION - This work consists of hot in-place recycling (HIR) of the top 2 inches of an asphalt concrete pavement by heating the existing pavement, collecting the material together, and paving the recycled mix in a continuous process.

MIX DESIGN AND MATERIALS – For each type of existing mix in the pavement surface of the project, perform testing on the top 2 inches of mix to determine:

1. Existing gradation.
2. Required rate of rejuvenator application.
3. Final mix with a minimum Marshall Stability (AASHTO T 245) of 1800 pounds (8006 N), unless the Design Designation indicates the current year trucks are less than 1500, then the minimum Marshall Stability is 1200 pounds (5338 N).

Only use materials added during the HIR process that conform to the following minimum requirements:

1. Meet or exceed the quality requirements of 703.05 for virgin aggregate.
2. Asphalt rejuvenating agents primarily composed of a petroleum resin base.
3. Asphalt binders, if used, conforming to the binder requirements of 702.01.
4. Other modifiers, if used, defined in the mix design.

At least two weeks before starting production, submit a copy of the mix design to the City Construction Section Chief. Re-submit any changes in the mix design during production to verify the minimum requirements are met.

EQUIPMENT - Use self-contained, self-propelled equipment units designed for and capable of a continuous HIR operation. Provide heating units designed to minimize the damage to the asphalt binder.

SURFACE CONSTRUCTION - Prepare the surface by removing thermoplastic pavement markings. Conform to the requirements of 401.05, except ensure the minimum surface temperature is 50 °F (10 °C) and the minimum air temperature is 40 °F (5 °C).

Remove cold patch areas to a depth of 3 inches (75 mm) and fill the areas with approved asphalt concrete as directed by the Engineer.

Notify the Engineer at least 24 hours prior to HIR. If not paving for one week, re-notify the Engineer at least 24 hours prior to resuming HIR.

Heat the existing pavement to allow for loosening of material without excessive fracturing of the aggregate and recycle in-place to a average depth of 2 inches (50 mm) measured behind the screed, with no depth measurement less than 1.5 inches (37.5 mm). Do not exceed 325 degrees F (163 degrees C) in the recycled mix behind the screed.

Ensure the finished pavement meets the following tolerances:

1. Meets the surface requirements of 401.19 and provide a uniform and consistent surface texture with no segregation or excessive asphalt cement.
2. Ensure the modified binder has a Penetration Value between 40 to 90.

BASIS OF PAYMENT - The accepted quantities for this item will be paid for at the contract unit price on a square yard basis, completed and accepted, which price and payment shall be include full compensation for furnishing all labor, tools, and equipment for doing all the work involved in completing this item. The cost of removing thermoplastic pavement markings is also included in the contract unit price for this item.

ITEM	UNIT	DESCRIPTION
Special	Square Yard	Hot In Place Recycling

QUALITY CONTROL. The quality control monitoring and testing for the hot-in-place recycling work will be conducted independently by the City's geotechnical representative.

DS-24 COLD IN PLACE FULL DEPTH ASPHALT RECLAMATION

DESCRIPTION - This work shall consist of pulverizing the existing bituminous asphalt surface course (Top 2 inches) to form a Stabilized Base Course (SBC). The reclamation work shall consist of upgrading and stabilizing the pulverized material through blending of aggregate and bituminous or chemical stabilizers, as directed by the City's geotechnical representative, and compacting the treated material as required to achieve the minimum strength specifications presented herein.

MIX DESIGN - The City shall provide the Contractor with a mix design prepared by the City's geotechnical representative who has experience in Full Depth Reclamation (FDR). The mix design is based on the pavement cores and related field test data, including gradation of material, extraction of bitumen, and gradation of aggregate after extraction. Additional pavement core sampling by the Contractor for an individual mix design is not permitted and the cost for same will not be reimbursed by the City.

The mix design from the City will include the following information in a report format as follows:

1. Details of the project
2. A plan copy of the core locations
3. A copy of the laboratory test results from the City's geotechnical representative
4. A chart of the depth and pavement materials from the core data
5. A copy of the Indirect Tensile Strength (ITS), stability, and flow test graphs from the City's geotechnical representative
6. A chart of the amount and type of recommended stabilizing additives for separate project locations
7. Maximum Marshall density of recommended mix using heavy duty compaction

The City's geotechnical representation is responsible for monitoring quality control. The City's use of an independent quality control consultant **DOES NOT** release the Contractor from his contractual responsibilities and obligations for same.

MATERIALS

1. **Bituminous Stabilizing Additive.** Bituminous additives used for reclamation shall be selected as determined by the accepted mix design. Estimated application rate is 0.8 gal/SY but will vary per mix design.
2. **Virgin Aggregates.** At the direction of the City, mineral aggregate will be added as necessary for the correction of gradation of reclaimed material in the project mix design and shall meet all state aggregate specifications.
3. **Chemical Admixtures.** Chemical additives for reclamation shall be selected as determined by the accepted mix design, including the weight of the cement. Portland cement shall meet the requirements of ODOT Item 701.04.
4. **Water.** Water utilized for dust control, compaction, or asphalt foaming shall be clean and clear. The Contractor will test all water of questionable quality as per the requirements of AASHTO T-26 at no additional expense to the City.

CONSTRUCTION

1. **General.** The Contractor shall provide all necessary labor, equipment, stabilizing additives, and aggregate, as approved by the City, to place and compact the Stabilized Base Course.
2. **Pre-pulverization/Shaping.** The Contractor shall pre-pulverize the roadway pavement materials from curb to curb and shape the pulverized materials to within ½ inch of irregularity to the lines and grades of the proposed roadway and compact pulverized material until no further densification is achieved. After acceptance by the City and/or the City's onsite geotechnical representative, the contractor shall commence with spreading and blending. Water may be needed to be injected if the pulverized materials are below 85% of optimum.
3. **Equipment.** The equipment for pulverizing and mixing the existing pavement surfaces shall be a self-propelled machine capable of pulverizing in-place the existing pavement. The cutting drum shall have the ability to operate at various speeds (RPM), independent of the machine's forward speed, with an adjustable mechanism to control chunk size and gradation. The machine shall be capable of pushing an asphalt supply tanker or distributor via interlocking push bar. The machine shall be equipped with a computerized integral liquid proportioning system capable of regulating and monitoring the liquid application rate relative to depth of cut, width of injection, advance speed, and material density. The spray bar shall be mounted in such a manner as to allow the liquid additives to be injected directly into the cutting drum/mixing chamber to mix with the pulverized material in suspension. The equipment shall be capable of mixing the liquid additives and the pulverized material into a homogenous pavement course. The cutting drum shall be fully maintained and in good condition at all times throughout the job.
4. **Aggregate Spreading.** Aggregate, if required and approved by the City, shall be placed ahead of the pulverization of the roadway pavement by means of a pull type paver box, pull type drop spreader, or self-propelled aggregate spreader. Gravity/tail gate spreading of the aggregate is unacceptable.
5. **Dry Additive Spreading.** The additive, if required and approved by the City, shall be applied at a rate to be determined by the City's geotechnical engineer onsite. The additive shall be spread uniformly using a method approved by the City's geotechnical engineer. Dry additives shall be spread in a manner to minimize dusting, and shall not be applied when wind conditions, in the opinion of the City, will become objectionable to traffic or adjacent property owners.
6. **Reclaimed Base Course Grading.** Following mixing, the SBC will be placed utilizing a conventional motor grader or paving machine with slope control to the line and grade established in the plans. Paving work is expected to be in accordance with acceptable base course products, with a tolerance of not more than ½ inch of irregularity.
7. **Compaction.** The number, weight, and type of rollers shall be sufficient to obtain the required compaction while the SBC is in a workable condition. Breakdown rolling shall take place prior to motor grader manipulation utilizing at least a 30-ton pneumatic roller equipped with a wheel wetting device or a vibratory padfoot roller. Rolling shall be performed until no displacement is discerned. Either a 20-ton double-drum vibratory steel wheel roller with drum wetting device or a single-drum smooth-drum vibratory compactor shall do final rolling to eliminate pneumatic tire marks and achieve density. Compaction rolling that results in pavement distress such

as cracking or movement shall be discontinued at the discretion of the City's geotechnical engineer onsite until a resolution can be determined for the problem.

8. **Weather Limitations.** No work shall be performed before April 1st or after October 31 unless otherwise directed by the City. The weather and temperature limitations for this work shall be 40 degrees Fahrenheit and rising with no standing water on the existing surface. No work shall be performed if there is a forecast of an atmospheric temperature below freezing (32 degrees Fahrenheit) within 24 hours.

CURING. The Contractor may allow for vehicular traffic on the SBC before the new asphalt section is placed at the discretion and approval by the City. The reclaimed base course shall be allowed to cure for either a minimum of 3 days after acceptance of SBC layer compaction or acceptance of the moisture content of the SBC layer. The placement of the new asphalt wearing course over the SBC shall not occur until acceptance of the SBC work by the City.

SURFACE SEALING (FOG SEAL). The Contractor will seal the reclaimed base course at a rate of 0.25 gallons per square yard. The sealer shall be compatible with the stabilizers specified and approved with the mix design review for the SBC.

BASIS OF PAYMENT. The accepted quantities of full depth reclamation pavement will be paid for at the contract unit price per square yard, which price and payment shall be full compensation for furnishing all labor, materials, tools, equipment and incidentals for the work involved in placing the full depth reclamation pavement as directed.

ITEM	UNIT	DESCRIPTION
Special	Square Yard	Full Depth Asphalt Reclamation

The full depth reclamation work also includes the pre-pulverization, shaping, compaction, fine grading, and surface seal placement with this project. Bituminous stabilizing additives and portland cement additives will be paid for under separate project items.

QUALITY CONTROL. The quality control monitoring and testing for the full depth reclamation work will be conducted independently by the City's geotechnical representative.

DS-25 ASPHALT PAVEMENT (ODOT ITEMS 301, 302, 440, 441 & 442)

DESCRIPTION - This item replaces specification D-24. This work consists of constructing an base course, leveling course, intermediate course, and surface course of aggregate and asphalt binder, mixed in a central plant, spread and compacted on a prepared surface.

MATERIALS - An ODOT certified and approved Job Mix Formula (JMF) shall be submitted for review and approval by the City.

Recycled material shall be limited to the values listed in Table 440.05-1 Method 1 –

Standard RAP/RAS Limits in the ODOT CMS unless otherwise specified in the contract.

CONSTRUCTION - The requirements of ODOT Item 301, 302, and 401 apply to the placement of asphalt pavements unless otherwise specified in the contract.

MEASUREMENT & PAYMENT - Acceptance criteria and payment for the asphalt intermediate and surface courses are specified in the contract and will be per ODOT Items 446, 447, 448, and 449.

DS-26 INSERTS

The following inserts have been provided for the use and information of the contractor:

1. City of Cleveland Standard Construction Drawings
2. Monument Box and Assemblies
3. BP- 7.1
4. Castings
5. Partial Depth Pavement Repair Detail
6. Conc 1 Detail
7. Intersection Speed Table-City of Columbus STD DWG 2337
8. RubberForm Speed Table (RF-RKSCRPA)

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 SCHEDULE OF ITEMS- ADDENDUM NO. 2

REF NO.	DESCRIPTION	UNIT	APPROXIMATE TOTAL QUANTITY	UNIT COST	COST
SIDEWALK					
1	Item 608 - 4" Concrete sidewalk including removal and disposal of existing sidewalk, driveway, apron, treelawn and excavation or embankment, complete in place, as per DS-16	SQ. FT.	50,000		
2	Item 608 - 6" Concrete sidewalk, driveway aprons including removal and disposal of existing sidewalk, driveway, apron, treelawn and excavation or embankment, complete in place, as per DS-16	SQ. FT.	25,000		
3	Item 608 - 8" Concrete sidewalk, driveway aprons including removal and disposal of existing sidewalk, driveway, apron, treelawn and excavation or embankment, complete in place, as per DS-16	SQ. FT.	10,000		
4	Item 608 - ADA Curb Ramp Types CR-1 through CR-11, as per DS-10 & DS-16	CORNER	2,000		
	SUBTOTAL SIDEWALK				
CURB					
5	Item 605 - 4" Underdrains as per D-42	FOOT	15,000		
6	Item 609 - Concrete Type 6 curb cast in place, including removal and disposal of existing curb, complete in place, as per DS-16	FOOT	10,000		
7	Item 609 - Concrete Type 2B curb, including removal and disposal of existing curb, complete in place, as per DS-16	FOOT	2,000		
8	Item 609 - Concrete Curb, Misc.: Mountable including removal and disposal of existing curb, complete in place, as per DS-16	FOOT	500		
9	Item Special - Integral concrete curb and sidewalk cast in place, including removal and disposal of existing curb and sidewalk, complete in place, as per DS-16	FOOT	2,000		
10	Item 202 - Granite curb removed as per C-12	FOOT	200		

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REF NO.	DESCRIPTION	UNIT	APPROXIMATE TOTAL QUANTITY	UNIT COST	COST
11	Item 609 - Curb, Misc: 6" Granite curb, reset as per DS-14	FOOT	100		
12	Item 609 - Curb, Misc: 8" Granite curb, reset as per DS-14	FOOT	100		
13	Item 609 - Curb, Misc: 6" Granite curb, complete in place, as per DS-15	FOOT	100		
14	Item 609 - Curb, Misc: 8" Granite curb, complete in place, as per DS-15	FOOT	100		
	SUBTOTAL CURB				
PAVEMENT					
15	Item 202 - Pavement Removed (Roadway) as per D-15	SQ. YD.	120,000		
16	Item 202 - Pavement Removed (Sidewalk or Driveway) as per D-15	SQ. FT.	500		
17	Item 203 - Excavation as per DS-16, complete in place as directed by the Engineer	CU. YD.	1,500		
18	Item 203 Embankment as per DS-16, complete in place as directed by the Engineer	CU. YD.	1,500		
19	Item 204 - Proof Rolling	HOURL	100		
20	Item 204 Subgrade Compaction	SQ. YD.	120,000		
21	Item 255 - Full depth pavement sawing as directed by Engineer	FOOT	900		

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REF NO.	DESCRIPTION	UNIT	APPROXIMATE TOTAL QUANTITY	UNIT COST	COST
22	Item 304 – 6" Limestone Aggregate Base	CU. YD.	20,000		
23	Item 305 – 9" min. Concrete Base, as per DS-16 and DS-17, Class QC1P, complete in place	CU. YD.	30000		
24	Item 251 - Partial Depth Pavement Repair	SQ. YD.	10,000		
25	Item 254 – Pavement Planning, Asphalt (T=2-inches max)	SQ. YD.	250,000		
26	Item 254 – Pavement Planning, Asphalt or Concrete (T=2-4 inches, 3-inch typical)	SQ. YD.	300,000		
27	Item 407 - Tack Coat (At 0.10 GAL/SY)	GAL.	30,000		
28	Item 407 - Tack Coat for Intermediate Course (At 0.05 GAL/SY)	GAL.	25,000		
29	Item 441 - Asphalt Concrete Leveling Course (T=1" Typical), Type 1, (448), PG 64-22 as per DS-25	CU. YD.	16,000		
30	Item 441 - 1-1/4" Asphalt Concrete, Type 1 Surface Course, (448), PG64-22, as per DS-25	CU. YD.	15,000		
31	Item 441 - 1-1/2" Asphalt Concrete, Type 1 Surface Course, (448), PG64-22, as per DS-25	CU. YD.	15,000		
32	Item 441 - 1-3/4" Asphalt Concrete, Type 2 Intermediate Course, (448), PG64-22, as per DS-25	CU. YD.	20,000		
33	Item 441 - 1-1/2" Asphalt Concrete, Type 1 Surface Course, (448), PG70-22M, as per DS-25	CU. YD.	15,000		
34	Item 441 - 1-1/4" Asphalt Concrete, Type 1 Surface Course, (448), PG70-22M, as per DS-25	CU. YD.	15,000		

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REF NO.	DESCRIPTION	UNIT	APPROXIMATE TOTAL QUANTITY	UNIT COST	COST
35	Item 441 - 0" Asphalt Concrete Leveling Course, Type 1, (448) PG64-22, as per DS-25	CU. YD.	5,000		
36	Item 441 - 2" Asphalt Concrete, Type 1, PG64-22, as per DS-25, Material Only	CU. YD.	3,000		
37	Item 422 - Single Chip Seal, complete in place	SQ. YD.	300,000		
39	Item 423 - Crack Sealing, Type I, Material Only	POUNDS	15,000		
40	Item 423 - Crack Sealing, Type II, Material Only	POUNDS	120,000		
41	Item 423 - Crack Sealing, Type I or II, Labor, Equipment, and Incidentals	POUNDS	135,000		
42	Item Special - Hot In Place Asphalt Recycling, as per DS-23	SQ. YD.	30,000		
43	Item Special - Cold In Place Asphalt Recycling, as per DS-24	SQ. YD.	30,000		
44	Item Special - Cold In Place Bituminous Emulsion Stabilizing Agent, as per DS-24	GALLONS	24,000		
45	Item Special - Cold In Place Portland Cement Additives, as per DS-24	TONS	1,200		
46	Item Special - Fog Seal, as per DS-22	GALLONS	1,000		
47	Item Special - Asphalt Rejuvenating Agent, as per D-74	SQ. YD.	300,000		
48	Item 451 - Reinforced Concrete Pavement, Misc.: Decorative Crosswalk (T=9" min.), As Per D-27, complete in place	CU. YD.	100		
49	Item 452 - 8" Non-Reinforced Concrete as per DS-16 AND DS-17, Class QC1P, complete in place	SQ. YD.	25,000		
50	Item 452 - 12" Non-Reinforced Concrete as per DS-16 AND DS-17, Class QC1P, complete in place	SQ. YD.	15,000		

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REF NO.	DESCRIPTION	UNIT	APPROXIMATE TOTAL QUANTITY	UNIT COST	COST
51	Item Special - Surcharge for Class MS Concrete as per D-25	CU. YD.	500		
52	Item Special - Undercutting Subgrade and Subbase, as per D-16	CU. YD.	3,500		
	SUBTOTAL PAVEMENT				
	BRICK/CONCRETE PAVER RESTORATION OR CONSTRUCTION				
53	Item Special - New Brick pavers with 1" sand setting bedding complete in place, as per DS-13	SQ. YD.	300		
54	Item Special - Salvaged Brick pavers with 1" sand setting bedding complete in place, as per DS-13	SQ. YD.	7,000		
55	Item Special - Relay existing brick or concrete pavers with 1" setting bed, as per DS-13	SQ. YD.	5,000		
	SUBTOTAL BRICK/CONCRETE PAVER RESTORATION OR CONSTRUCTION				
	ADJUSTMENT OF CASTINGS				
56	Item 611 - Existing valve box adjusted to grade as per D-39	EACH	50		
57	Item 611 - Existing monument box adjusted to grade as per D-41	EACH	150		
58	Item 611 - Existing water meter manhole adjusted to grade as per D-39	EACH	15		
59	Item 611 - Existing water meter manhole reconstructed to grade as per D-39	EACH	5		
60	Item 611 - Existing CPP manhole adjusted to grade as per D-39	EACH	5		
61	Item 611 - Existing CPP manhole reconstructed to grade as per D-39	EACH	5		

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REF NO.	DESCRIPTION	UNIT	APPROXIMATE TOTAL QUANTITY	UNIT COST	COST
62	Item 611 - Existing sewer manhole adjusted to grade as per D-39	EACH	300		
63	Item 611 - Existing sewer manhole reconstructed to grade as per D-39	EACH	50		
64	Item 611 - Existing sewer manhole adjusted to grade, adjustable casting manhole riser, complete in place, as per DS-26	EACH	150		
65	Item 611 - Existing catch basin adjusted to grade as per D-39	EACH	300		
66	Item 611 - Existing old style catch basin adjusted to grade as per D-39	EACH	25		
67	Item 611 - Existing catch basin curb box adjusted to grade as per D-39	EACH	25		
68	Item 611 - Existing catch basin reconstructed to grade as per D-38	EACH	10		
69	Item 625 - Existing pull box adjusted to grade as per D-39	EACH	15		
70	Item Special - Miscellaneous metal as per D-72	POUNDS	250,000		
	SUBTOTAL ADJUSTMENT OF CASTINGS				
	DRAINAGE				
71	Item 611- New Catch Basin as per City of Cleveland standard drawing CB-1 and as per D-34	EACH	8		
72	Item 611- New Catch Basin as per City of Cleveland standard drawing CB-2 and as per D-34	EACH	8		
73	Item 611- 12" Conduit, Type B, 706.08 Vitrified Clay Pipe Extra Strength as per D-32	FOOT	250		
	SUBTOTAL DRAINAGE				

CITY OF CLEVELAND, MAYOR'S OFFICE OF CAPITAL PROJECTS, DIVISION OF ENGINEERING AND CONSTRUCTION
 2024 CITY WARDS OF CLEVELAND PUBLIC IMPROVEMENT BY REQUIREMENTS CONSTRUCTION CONTRACT
 SCHEDULE OF ITEMS- ADDENDUM NO. 2

REF NO.	DESCRIPTION	UNIT	APPROXIMATE TOTAL QUANTITY	UNIT COST	COST
TRAFFIC CONTROL					
74	Item 614 – Portable Changeable Message Sign	DAY	120		
75	Item 620 Delineator Curb, Pedestals spaced every 10-feet	FOOT	500		
76	Item 621 Raised Pavement Marker (RPM) Reflector 1-Way WHIT	EACH	500		
77	Item 625 – Conduit, Concrete Encased, 2", as per D-51	FOOT	100		
78	Item 625 – Conduit, Concrete Encased, 3", as per D-51	FOOT	100		
79	Item 625 - Plastic Caution Tape	FOOT	200		
80	Item 625 – Trench in Paved Area	FOOT	100		
81	Item 625 – Pull Box, Misc: 17" x 30", Removal and Replacement, Complete in Place, as per D-57	EACH	20		
82	Item 630 – Installation of Signal Pole or Strain Pole, as per DS-19 and as directed by Engineer	EACH	10		
83	Item 630 – Sign, Flat Sheet, as directed by Engineer	EACH	10		
84	Item 630 – Ground Mounted Sign Support, No. 2 Post, as directed by Engineer	FOOT	200		
85	Item 630 – Rectangular Rapid Flashing Beacon (RRFB) Sign Assembly, Complete in Place, As Per DS-20	EACH	20		
86	Item 632 – Signal and signal foundation removal, complete in place	EACH	10		

CITY OF CLEVELAND, MAYOR'S OFFICE OF CAPITAL PROJECTS, DIVISION OF ENGINEERING AND CONSTRUCTION
 2024 CITY WARDS OF CLEVELAND PUBLIC IMPROVEMENT BY REQUIREMENTS CONSTRUCTION CONTRACT
 SCHEDULE OF ITEMS- ADDENDUM NO. 2

REF NO.	DESCRIPTION	UNIT	APPROXIMATE TOTAL QUANTITY	UNIT COST	COST
87	Item 632 – Signal Support Foundation, as per D-48	EACH	10		
88	Item 632 – Pedestal Foundation, Complete in Place	EACH	10		
89	Item 632 – Detector Loop	EACH	80		
90	Item 642 – Removal of Pavement Marking, as directed by Engineer	FOOT	5,000		
91	Item 644 – Edge Line, 4", as directed by Engineer	MILE	5.00		
92	Item 644 – Transverse/Diagonal Line, as directed by Engineer	FOOT	5,000		
93	Item 644 – Lane Line, as directed by Engineer	MILE	15.00		
94	Item 644 – Center Line, as directed by Engineer	MILE	10.00		
95	Item 644 – Stop Line, as directed by Engineer	FOOT	1,500		
96	Item 644 – Channelizing Line, as directed by Engineer	FOOT	500		
97	Item 644 – Word on Pavement, 72", as directed by Engineer	EACH	20		
98	Item 644 – Lane Arrow, 72", as directed by Engineer	EACH	50		
99	Item 644 – Bike Lane Symbol Marking, as directed by Engineer	EACH	200		

CITY OF CLEVELAND, MAYOR'S OFFICE OF CAPITAL PROJECTS, DIVISION OF ENGINEERING AND CONSTRUCTION
 2024 CITY WARDS OF CLEVELAND PUBLIC IMPROVEMENT BY REQUIREMENTS CONSTRUCTION CONTRACT

SCHEDULE OF ITEMS- ADDENDUM NO. 2

REF NO.	DESCRIPTION	UNIT	APPROXIMATE TOTAL QUANTITY	UNIT COST	COST
100	Item 644 – Bike Lane Line Dotted, 6-ft GAP	FOOT	1,000		
101	Item 644 – Crosswalk Line, as directed by Engineer	FOOT	500		
102	Item 646 – Edge Line, 4", as directed by Engineer	MILE	5.00		
103	Item 646 – Lane Line, as directed by Engineer	MILE	2.00		
104	Item 646 – Center Line, as directed by Engineer	MILE	2.00		
105	Item 646 – Dashed Center Line, Type 2, as directed by Engineer	MILE	1.00		
106	Item 646 – Stop Line, as directed by Engineer	FOOT	200		
107	Item 646 – Crosswalk Line, as directed by Engineer	FOOT	500		
108	Item 646 – Lane Arrow, 72", as directed by Engineer	EACH	100		
109	Item 646 – Bike Lane Symbol Marking, as directed by Engineer	EACH	100		
110	Item 646 – Channelizing Line, as directed by Engineer	FOOT	200		
111	Item 646 – Word on Pavement, 72", as directed by Engineer	EACH	20		
112	Item 646 – Transverse/Diagonal Line, as directed by Engineer	FOOT	2,000		

CITY OF CLEVELAND, MAYOR'S OFFICE OF CAPITAL PROJECTS, DIVISION OF ENGINEERING AND CONSTRUCTION
 2024 CITY WARDS OF CLEVELAND PUBLIC IMPROVEMENT BY REQUIREMENTS CONSTRUCTION CONTRACT
 SCHEDULE OF ITEMS- ADDENDUM NO. 2

REF NO.	DESCRIPTION	UNIT	APPROXIMATE TOTAL QUANTITY	UNIT COST	COST
113	Item 646 - Bike Lane Line Dotted, 6-ft Gap	FOOT	1,000		
114	Item 646 - Bike Lane Green Paint	SQ. FT.	5,000		
115	Item Special - Asphalt Speed Table, complete in place	EACH	20		
116	Item Special - RubberForm Rubber Speed Table, complete in place	EACH	10		
	SUBTOTAL TRAFFIC CONTROL				
LANDSCAPING					
117	Item 201 – Tree and stump removed (24"- 36" Dia.) as per D-70	EACH	10		
118	Item 201 – Tree and stump removed (36"-60" Dia.) as per D-70	EACH	10		
119	Item 201 – Tree and stump removed (Over 60" Dia.) as per D-70	EACH	10		
120	Item 201 – Stump removed (Regardless of size) as per D-70	EACH	10		
121	Item 609 - Curb, Misc. Tree Pit Curb, as per Cleveland Std. Dwg. TP 1	FOOT	40		
122	Item 666 – Pruning Existing Trees (16"-24") as per D-69	EACH	10		
123	Item 666 – Pruning Existing Trees (24"-36") as per D-69	EACH	10		
124	Item 666 – Pruning Existing Trees (36" and over) as per D-69	EACH	10		

CITY OF CLEVELAND, MAYOR'S OFFICE OF CAPITAL PROJECTS, DIVISION OF ENGINEERING AND CONSTRUCTION
 2024 CITY WARDS OF CLEVELAND PUBLIC IMPROVEMENT BY REQUIREMENTS CONSTRUCTION CONTRACT
 SCHEDULE OF ITEMS- ADDENDUM NO. 2

REF NO.	DESCRIPTION	UNIT	APPROXIMATE TOTAL QUANTITY	UNIT COST	COST
125	Item 659 – Seeding and mulching, Class I High Quality, as per D-66, complete in place	SQ. YD.	1,000		
126	Item Special- Arborist as per D-71	HOUR	40		
127	Item Special- Root Pruning as per specifications D-71	EACH	20		
128	Item Special- Street Trees (3.0" caliper), as per DS-19	EACH	50		
	SUBTOTAL LANDSCAPING				
	MAINTENANCE OF TRAFFIC				
129	Item 614 – Detour Signing, as per DS-2	EACH	25		
130	Item 614 – Portable Changeable Message Sign	DAY	120		
131	Item 614 – Asphalt Concrete for Maintaining Traffic	CU. YD.	100		
132	Item 614 - Work Zone Center Line Class 1, 740.06, Type 1	MILE	2.00		
133	Item 614 - Work Zone Edge Line Class 1, 642 Paint, Yellow	MILE	2.00		
134	Item 614 - Work Zone Edge Line Class 1, 740.06, Type 1, White	MILE	2.00		
135	Item 614 - Work Zone Edge Line Class 1, 740.06, Type 1, Yellow	MILE	2.00		
136	Item 614 - Work Zone Stop Line, Class 1, 642 Paint	FOOT	100		
137	Item 614 - Work Zone Stop Line, Class 1, 740.06, Type 1	FOOT	100		

CITY OF CLEVELAND, MAYOR'S OFFICE OF CAPITAL PROJECTS, DIVISION OF ENGINEERING AND CONSTRUCTION
 2024 CITY WARDS OF CLEVELAND PUBLIC IMPROVEMENT BY REQUIREMENTS CONSTRUCTION CONTRACT
 SCHEDULE OF ITEMS- ADDENDUM NO. 2

REF NO.	DESCRIPTION	UNIT	APPROXIMATE TOTAL QUANTITY	UNIT COST	COST
138	Item 614 - Work Zone Crosswalk Line, Class 1, 740.06, Type 1	FOOT	200		
139	Item 616 - Water	M GAL	50		
140	Item 616 - Calcium Chloride	TON	10		
	SUBTOTAL MAINTENANCE OF TRAFFIC				
	MISCELLANEOUS				
141	Item Special - Nuclear Density Test (Asphalt), as per D-73	HOUR	200		
142	Item Special - Asphalt Density Test, as per D-73	EACH	200		
143	Item Special - Thickness of Compacted Asphalt Test, as per D-73	EACH	200		
144	Item Special - Making and curing concrete test cylinders in the field, as per D-73	SETS	200		
145	Item Special - Making and curing concrete test beams in the field, as per D-73	EACH	200		
146	Item Special - Subsequent Slump Test (Day Test) as per D-73.	EACH	200		
147	Item Special - Subsequent Air Content Test and Temperature Test (Day Test) as per D-73	EACH	200		
148	Item 613 - Low Strength Mortar (LSM) Backfill, Type 2	CU. YD.	500		
149	Item Special - Low Strength Mortar (LSM) Backfill as per D-31	CU. YD.	500		
150	Item Special - Surcharge for Winter Concrete Work, as per C-31	SQ. YD.	500		

CITY OF CLEVELAND, MAYOR'S OFFICE OF CAPITAL PROJECTS, DIVISION OF ENGINEERING AND CONSTRUCTION
 2024 CITY WARDS OF CLEVELAND PUBLIC IMPROVEMENT BY REQUIREMENTS CONSTRUCTION CONTRACT
 SCHEDULE OF ITEMS- ADDENDUM NO. 2

REF NO.	DESCRIPTION	UNIT	APPROXIMATE TOTAL QUANTITY	UNIT COST	COST
151	Item Special – Project signs furnished and placed, including relocations to new locations as directed, as per C-11	EACH	700		
152	Item Special – Collapsible Industrial Measuring Wheel with Marking Flags, Measurements in Feet and Inches	EACH	10		
153	Item 614 – Law Enforcement Officer	HOUR	6,000		
154	Item 614 – Law Enforcement Officer with patrol car	HOUR	6,000		
155	Item 619 - Field Office, Type B as per D-45	Month	24		
156	Item Special – Force Account as per D-13 (1% of Total Sum of Bid Items)	Dollars			
157	Item Special - Bond Fees (1% of Total Sum of Bid Items)	Dollars			
	SUBTOTAL MISCELLANEOUS				
	UNOFFICIAL TOTAL SUM (BID ITEMS 1-157) - (*)				
ALL QUANTITIES ARE APPROXIMATE AND NOT GUARANTEED. THE CONTRACT TERM IS FOR TWO YEARS.					
<p>* The amount of the Bid Bond or Cashier's Check required of all bidders under Section A-7 and the amount of the surety bond required of the successful bidder under Section 19, shall be based upon this dollar figure. This figure shall also be used to determine the percentage of CSB participation. This dollar shall be used to determine the lowest responsible bidder pursuant to this invitation to bid and shall be the contractor dollars. ** In the event the alternate bid is awarded, the percentage of CSB participation shall be kept the same.</p>					

Special Provisions - Curb Ramps-Addendum 2

1. The location of work shall be determined and marked by the Engineer.
2. All material and workmanship shall be in accordance with Ohio Department of Transportation, Construction and Material Specifications, Latest Edition unless modified by City of Cleveland standard "D" specifications including all supplements thereto. The ODOT, Construction and Materials Specifications shall govern all construction items that are a part of this plan except when such specifications are modified by the General Notes, Construction Details or City of Cleveland specifications set forth herein.
3. The Contractor shall be responsible for Curb Ramp and sidewalk layout. Contractor shall be responsible for having the finished work conform to the lines, grades, elevations and dimensions to meet ADA Requirements. Any inspection or checking of the Contractor's layout by the Owner and the acceptance of all or any part of it shall not relieve the Contractor of its responsibility to secure proper dimensions, grades and elevations of the several parts of the work. The Contractor shall use competent personnel and suitable equipment for the layout work required.
4. **Truncated Domes For Ramps: All curb ramps shall have Distinctively-Textured walking surfaces, detectable by cane, to warn pedestrians with visual impairments of an impending hazard on the circulation route ahead. The detectable warnings shall consist of truncated domes with a diameter of nominal 0.9 IN. (23 MM), a height of nominal 0.2 IN. (60 MM). The detectable warnings shall be 24 IN. (610 MM) in the direction of travel and extend the full width of the curb ramp or flush surface, except the flare surface. The location of the detectable warning shall be located so that the edge nearest the curb line or other potential hazard is 6 to 8 Inches (150 to 205 MM) from the curb line or other potential hazard.**

Truncated dome tiles, tinted red, shall be manufactured by suppliers as per ODOT's approved product list and subject to approval by the Construction Section Chief.

Cost of installing truncated dome tiles is incidental to the curb ramp layout with tiles layout pay item; no additional cost will be paid.

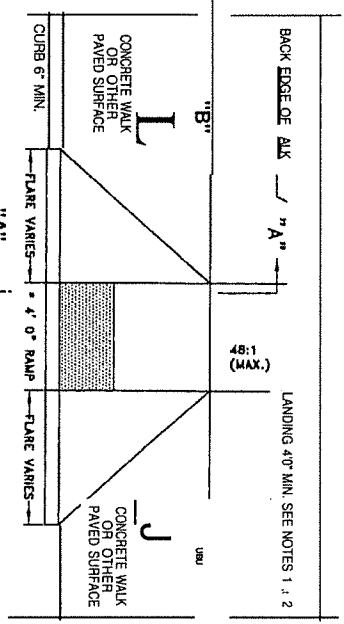
5. The attached drawings for the different types of ADA compliant curb ramps are for the most prevalent situations. However, under circumstances that are not detailed in the drawings, it is the contractor's responsibility to layout the curb ramp to meet ADA Requirements.
6. Dimensions are based on a 6-inch curb height, and shall be proportionally adjusted for other curb heights.
7. The thickness of concrete in the Curb Ramp, including flared sides and rolled edges, shall be in the plans or as directed by the Engineer.

Special Provisions - Curb Ramps (continued)

8. Ramps specified at 8-inch thickness shall be 8-inch thick everywhere in the ramp including the flared areas.
9. A 3-foot minimum width ramp may be used when existing space prohibits the construction of a 4-foot wide ramp with the approval of the engineer.
10. The ramp slope shall not exceed 12:1 at any Curb Ramp location where pedestrian traffic must travel along or across the Curb Ramp.
11. Cross-slope of Curb Ramps and sidewalks shall not exceed 48:1.
12. Transitional sections of sidewalk, that do not meet current standards and specifications, shall be installed to connect the new or replaced Curb Ramps. These transitions segments of sidewalk shall provide a smooth transition between the existing and new concrete.
13. All existing manhole covers, valve boxes, gratings, etc., that are located within the pedestrian right-of-way, shall be flushed mounted with the walking surface. Existing obstructions shall not have more than $\pm\frac{1}{4}$ inch difference in elevation than the surrounding surface.
14. The location of Curb Ramps in new construction shall take precedence over the location of drainage structures, guardrails and traffic, utility or light poles.
15. The bottom edge of the Curb Ramp shall be flush with the edge of the adjacent pavement and gutter line.
16. Curb Ramps shall be aligned with the sidewalk and the crosswalk where possible. If alignment is not possible the Contractor is to notify the Engineer prior to proceeding with construction activities at this location.
17. Crosswalk markings placed in conjunction with Curb Ramp Type "2,3,6,8" shall be located such that, at a minimum, the Curb Ramp, exclusive of the flared sides or rolled edges, shall be completely contained within the crosswalk.
18. Crosswalk markings placed in conjunction with Curb Ramp Type "1,4,5,7,9,10,11 (Diagonal Ramps)" shall be located at least 2-feet beyond the outside of the flared sides.
19. The rolled edges shall be constructed so that they are parallel to the direction of pedestrian traffic.
20. Rolled edges shall only be used adjacent to tree lawns, utility strips and large obstructions such as signal controllers.

Special Provisions - Curb Ramps (continued)

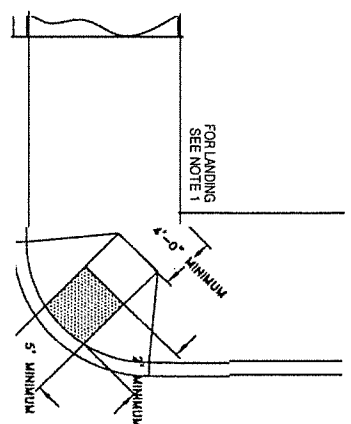
21. The normal gutter flow line shall be maintained throughout the Curb Ramp area, and appropriate drainage structures shall be used, as needed, to intercept the flow of water prior to the Curb ramp area. Positive drainage shall also be provided to carry water away from the intersection of the Curb Ramp and gutter line.
22. Surface texture of Curb Ramps shall be coarse-broomed or other approved method transverse to ramp slope (minimum 1/8 inch - maximum 3/16 inch deep). Beyond the TRUNCATED DOMES part of the ramp.
23. Curb poured separately from the ramp shall be separated from the ramp by 1/2 inch pre-molded expansion joint.
24. When less than 3-feet of a curb section remains after the curb cut is located, it shall also be removed and replaced. New curb shall be constructed in a minimum of 3-foot sections and a maximum of 5-foot sections, or as directed by the Engineer.
25. Fill for sidewalk and Curb Ramps, if required, shall be sand and gravel sub-base compacted in layers not exceeding 2-inches. Cost for the sub-base shall be incidental to ramp construction.
26. Curb Ramps and sun-ounding concrete walk shall be constructed of Portland cement concrete, City of Cleveland 650 mix unless directed otherwise by the Engineer.
27. 1/2 - inch pre-molded expansion material shall be placed whenever new concrete touches existing construction.
28. Forms shall consist of wood or metal and extend for the full depth of the concrete, and of sufficient strength to resist the pressure of the concrete without springing.
29. An approved curing compound shall be properly applied immediately after finishing the concrete.



3'-0" RAMP WIDTH MAY BE ACCEPTED WITH THE APPROVAL OF ENGINEER

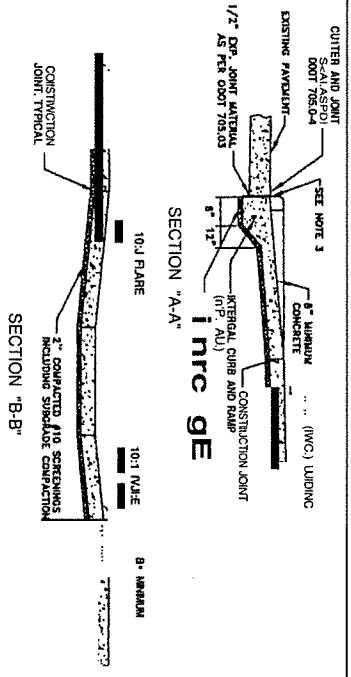
NOTES:

- 1) MAY BE REDUCED TO 3'-0" IN EXISTING SIDEWALK IF THE LANDING IS CONSTRAINED ALONG THE BACK EDGE.
- 2) WHERE THE LANDING IS LESS THAN 4'-0" THE RAMP SHOULD BE INCREASED TO 4'-0" AT EITHER LINE.
- 3) GUM SEAL SHALL BE USED AT THE BOTTOM EDGE OF THE BACKING BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.
- 4) SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.



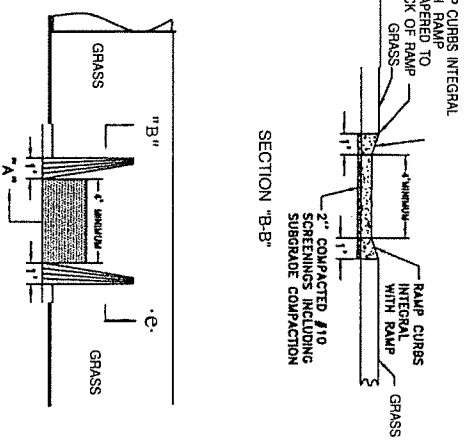
FOR LANDING SEE NOTE 1

SINGLE RAMP



SECTION "A-A"

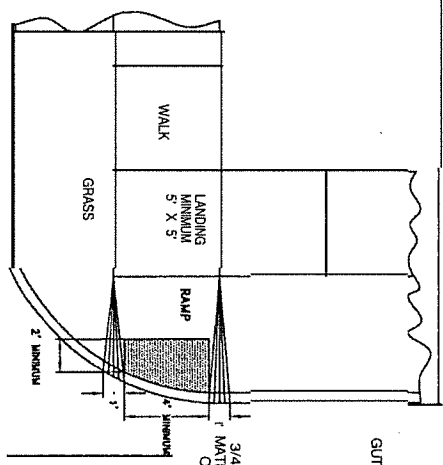
ICR-11



3'-0" RAMP WIDTH MAY BE ACCEPTED WITH THE APPROVAL OF ENGINEER

NOTES:

- 1- THE BOTTOM EDGE OF THE CURB RAMP SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT AND GUTTER LINE.
- 2- SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.
- 3- GUM SEAL, 705.04, 4" WIDE THE BOTTOM EDGE OF THE ADJACENT PAVEMENT AND GUTTER LINE.



GUTTER AND JOINT 3/4" EXP. JOINT 1/2" MATERIAL AS PER ODOT 705.04

SECTION "A-A"

ICR-21

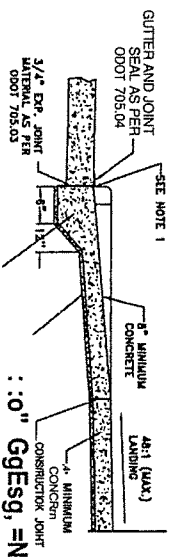
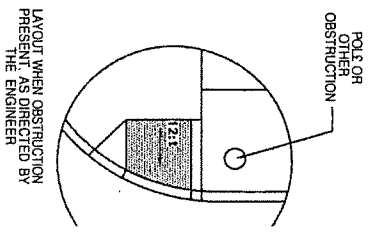
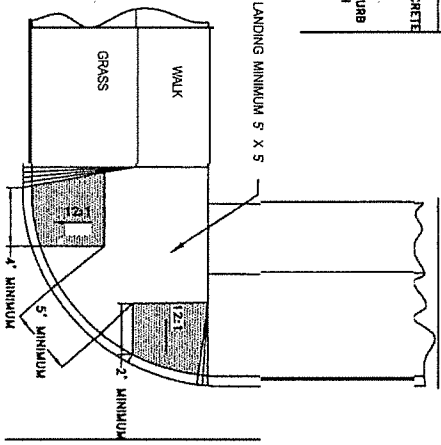
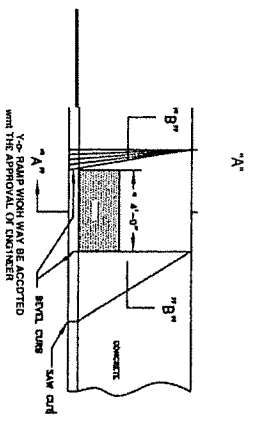
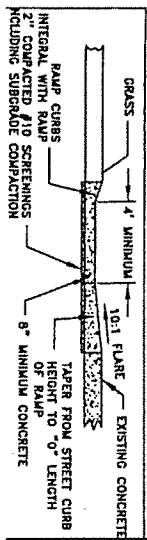
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CITY OF CLEVELAND
 DEPARTMENT OF PUBLIC SERVICE
 DIVISION OF ENGINEERING & CONSTRUCTION
 JOMARIE WASKIEWICZ, DIRECTOR OF PUBLIC SERVICE
 TYPICAL CONSTRUCTION
 CURB RAMPS
 NOT TO SCALE

DRAWN BY: B. RUDZINSKAS
 SUBMITTED BY: B. RUDZINSKAS
 APPROVED: [Signature]
 COMMISSIONER OF ENGINEERING AND CONSTRUCTION

DATE: [Blank]
 DATE: [Blank]

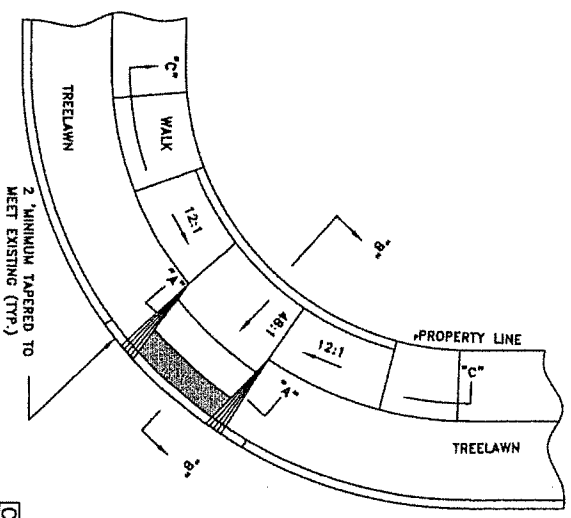
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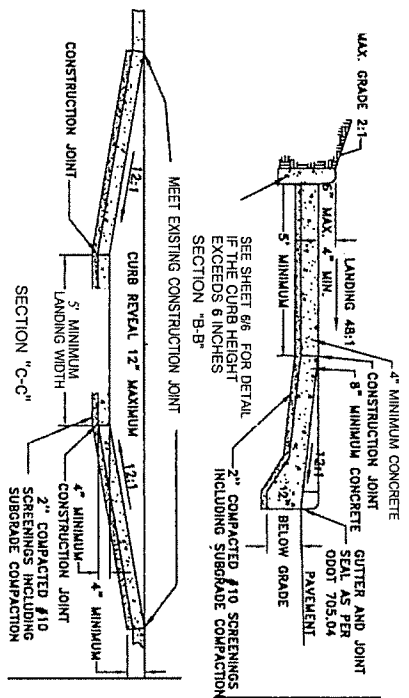
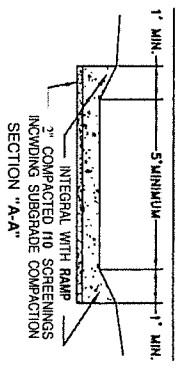
CR-3

NOTES:

1. THE BOTTOM EDGE OF THE CURB RAMP SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT AND GUTTER LINE.
2. SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.
3. BARRIER CURB INSTALLATION ONLY WHEN ADJACENT OBSTACLE PRESENT AND AS DIRECTED BY THE ENGINEER



CR-4

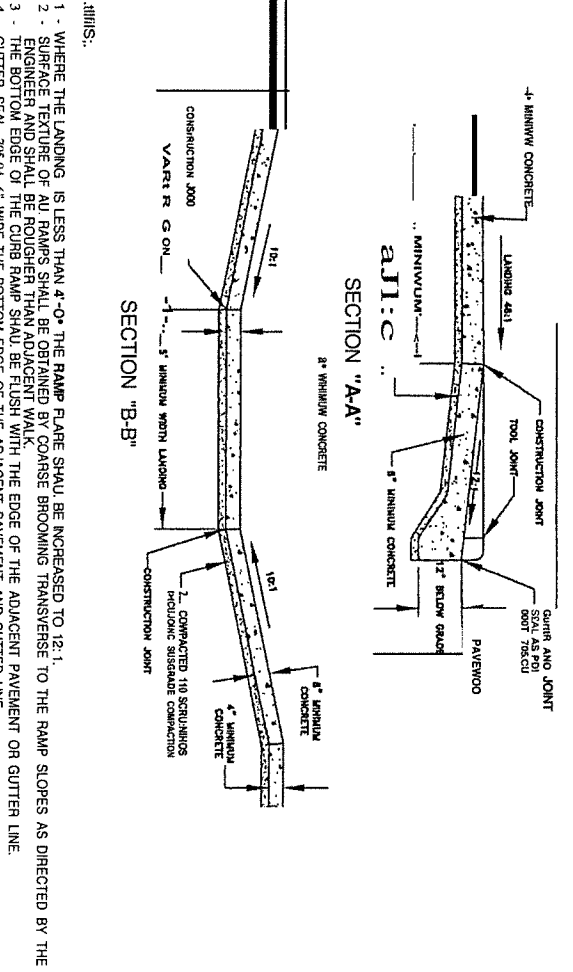
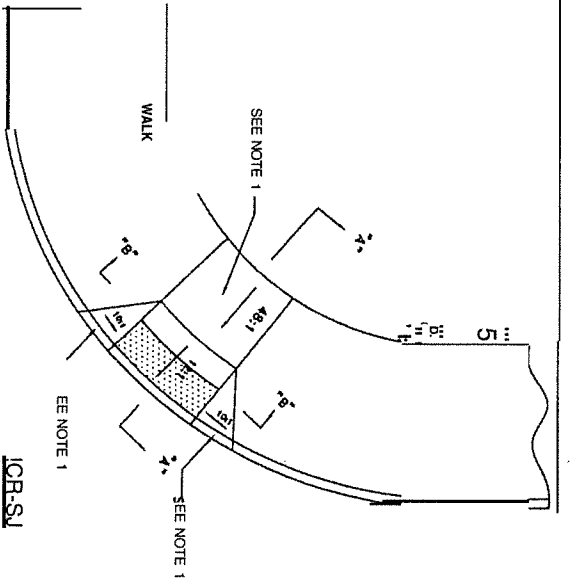


- NOTES:
1. WHERE A ROLLED CURB EXCEEDS SIX INCHES ABOVE THE WALK, THE CONTRACTOR SHALL INSTALL TYPE "6" CURB (6" X 18").
 2. THE BOTTOM EDGE OF THE CURB SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT AND GUTTER LINE.
 3. SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.

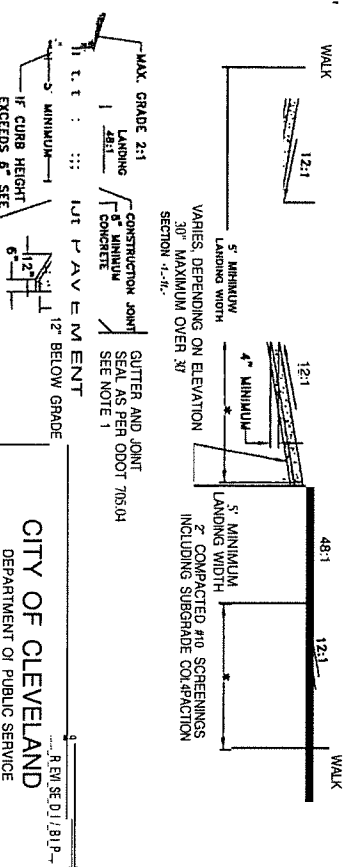
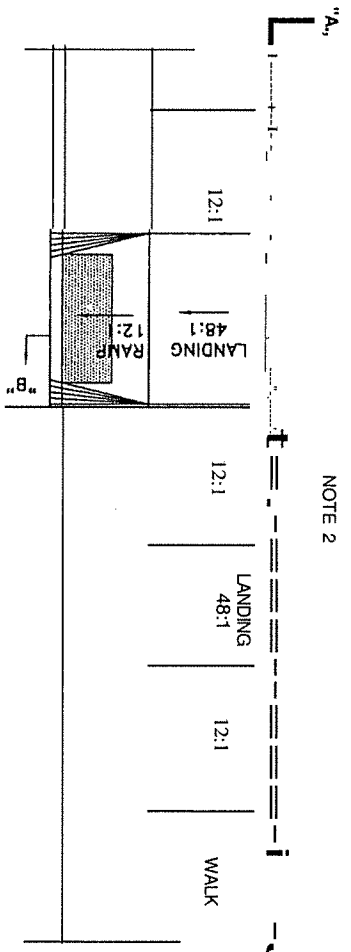
CITY OF CLEVELAND

DEPARTMENT OF PUBLIC SERVICE
 DIVISION OF ENGINEERING & CONSTRUCTION
 JOHARIE WASK, DIRECTOR OF PUBLIC SERVICE
 TYPICAL CONSTRUCTION
 CURB RAMPS
 NOT TO SCALE

DRAWN BY: B. PILOZINSKAS
 SUBMITTED BY: W. WOLFE
 DATE: 12/10/01
 APPROVED: [Signature]
 DATE: 1/11/02
 COMMISSIONER OF ENGINEERING AND CONSTRUCTION



- NOTES:
- 1 - WHERE THE LANDING IS LESS THAN 4'-0" THE RAMP FLARE SHALL BE INCREASED TO 12:1.
 - 2 - SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.
 - 3 - THE BOTTOM EDGE OF THE CURB RAMP SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT OR GUTTER LINE.
 - 4 - GUTTER SEAL, 705.04, 6" WIDE THE BOTTOM EDGE OF THE ADJACENT PAVEMENT AND GUTTER LINE.

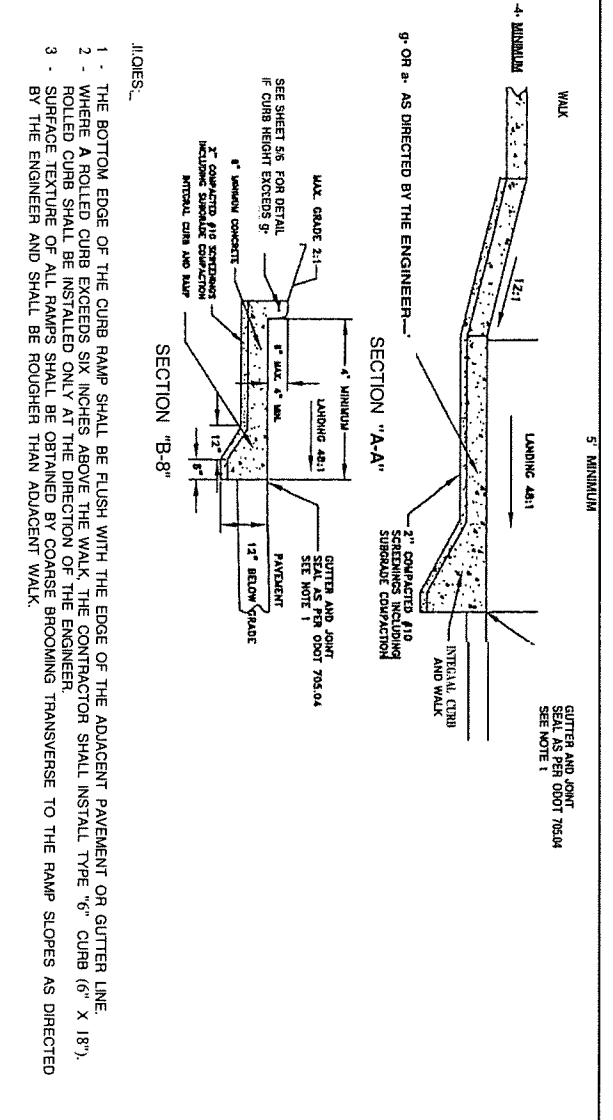
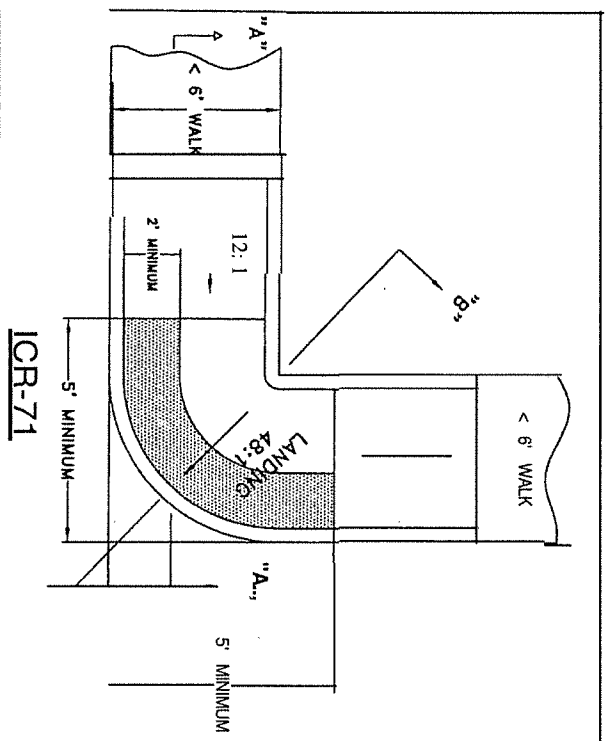


- NOTES:
- 1 - THE BOTTOM EDGE OF THE CURB RAMP SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT OR GUTTER LINE.
 - 2 - WHERE A ROLLED CURB EXCEEDS SIX INCHES ABOVE THE WALK, THE CONTRACTOR SHALL INSTALL TYPE "6" CURB (6" X 18").
 - 3 - SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.

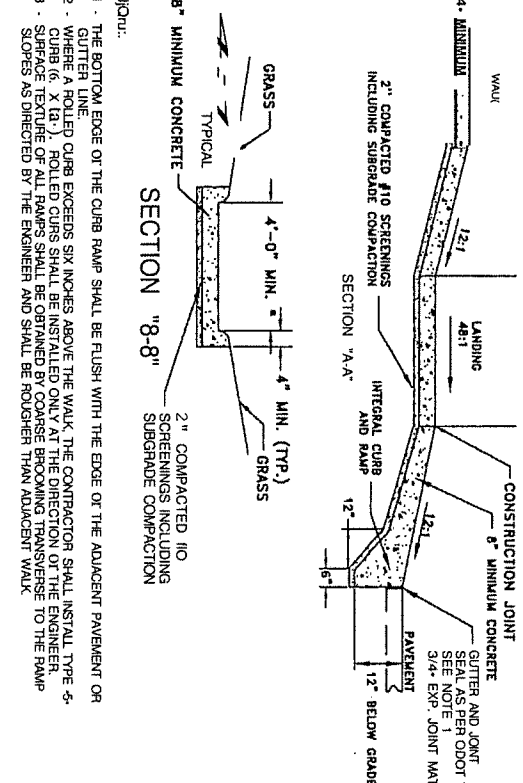
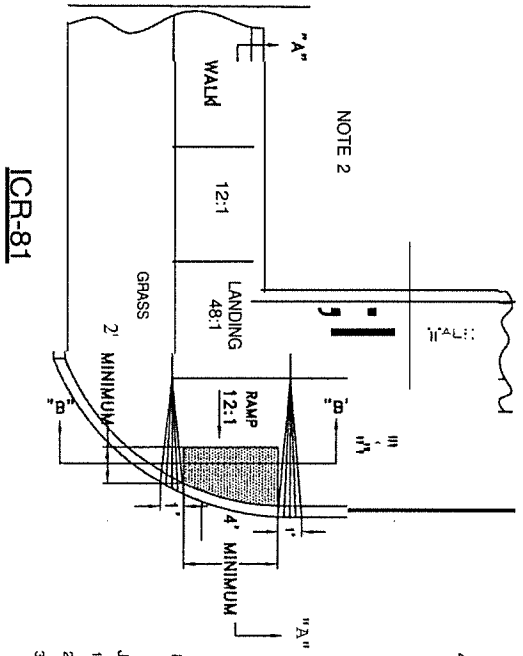
CITY OF CLEVELAND
 DEPARTMENT OF PUBLIC SERVICE
 DIVISION OF ENGINEERING & CONSTRUCTION
 JONAHIE WASKIR/DIRECTOR OF PUBLIC SERVICE
 TYPICAL CONSTRUCTION
 CURB RAMPS
 NOT TO SCALE

DRAWN BY: **B. PLODZINSKAS** DATE: _____
 SUBMITTED BY: **W. MCLAUGHLIN** DATE: _____
 APPROVED: **L.G. drtu di** DATE: _____
 COMMISSIONER OF ENGINEERING AND CONSTRUCTION

FILE NO.: CR 1 SHEET 3/6



- NOTES:
- 1 - THE BOTTOM EDGE OF THE CURB RAMP SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT OR GUTTER LINE.
 - 2 - WHERE A ROLLED CURB EXCEEDS SIX INCHES ABOVE THE WALK, THE CONTRACTOR SHALL INSTALL TYPE "6" CURB (6" X 18").
 - 3 - SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.



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REVISIONS

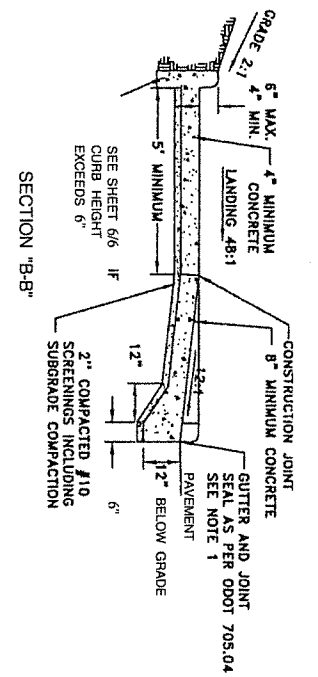
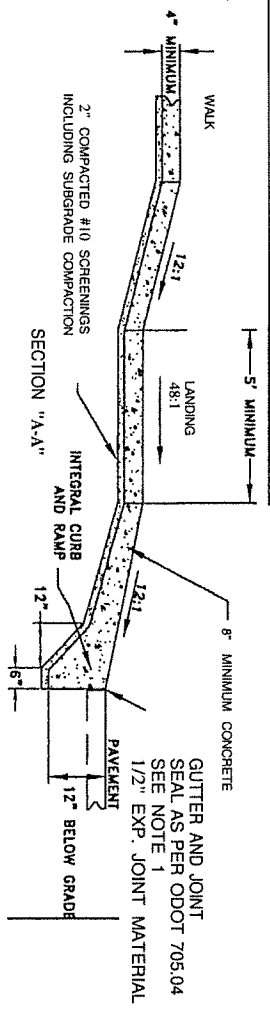
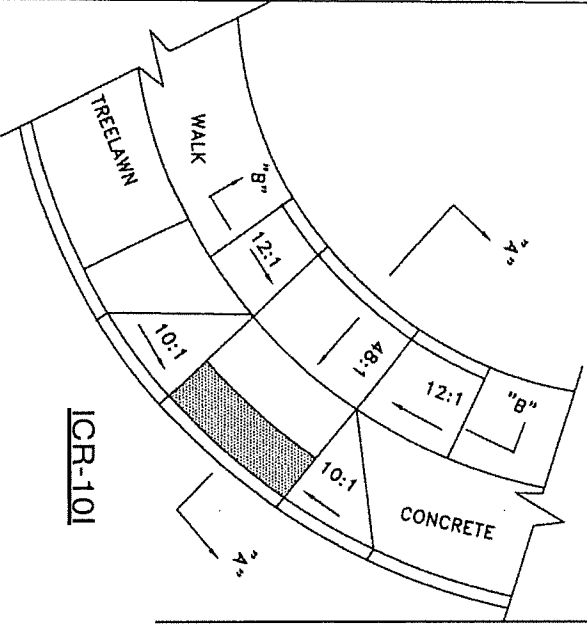
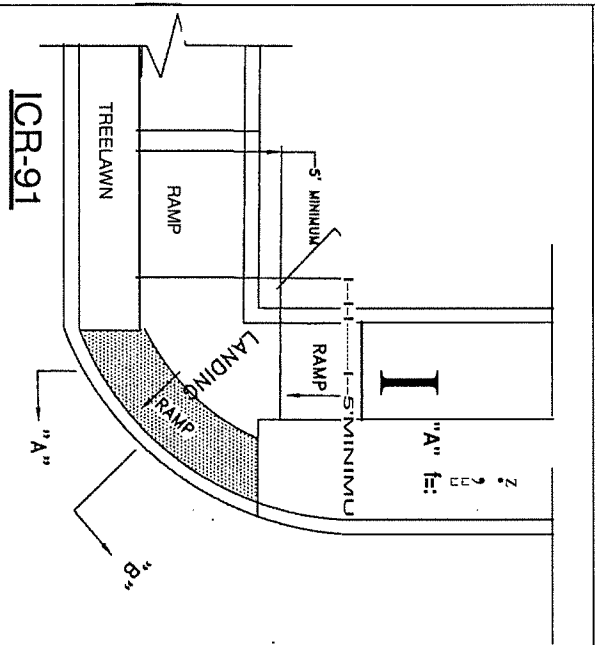
CITY OF CLEVELAND
 DEPARTMENT OF PUBLIC SERVICE
 DIVISION OF ENGINEERING & CONSTRUCTION
 JOHARIE WASKO, DIRECTOR OF PUBLIC SERVICE
 CURB RAMPS
 NOT TO SCALE

DATE: 04/18
 DATE: 04/18

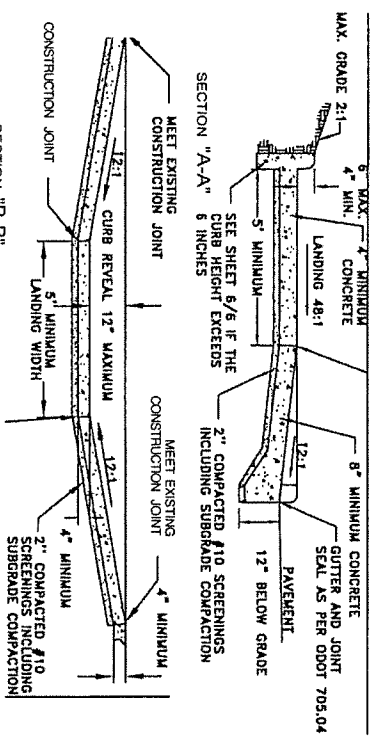
DRAWN BY: B. ELIZONSKAS
 SUBMITTED BY: W. MCDONALD

APPROVED: *W. McDonald*
 COMMISSIONER OF ENGINEERING AND CONSTRUCTION

FILE NO.: CR 1 SHEET 46



- NOTES:**
- 1 - THE BOTTOM EDGE OF THE CURB RAMP SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT OR GUTTER LINE.
 - 2 - WHERE A ROLLED CURB EXCEEDS SIX INCHES ABOVE THE WALK, THE CONTRACTOR SHALL INSTALL TYPE "B" CURB (6" X 18"). ROLLED CURB SHALL BE INSTALLED ONLY AT THE DIRECTION OF THE ENGINEER.
 - 3 - SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY COARSE BROOKING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.



- (12:1)**
- 1 - WHERE A ROLLED CURB EXCEEDS SIX INCHES ABOVE THE WALK, THE CONTRACTOR SHALL INSTALL TYPE "B" CURB (6" X 18"). ROLLED CURB SHALL BE INSTALLED ONLY AT THE DIRECTION OF THE ENGINEER.
 - 2 - THE BOTTOM EDGE OF THE CURB SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT AND GUTTER LINE.
 - 3 - SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY COARSE BROOKING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.

CITY OF CLEVELAND
 DEPARTMENT OF PUBLIC SERVICE
 DIVISION OF ENGINEERING & CONSTRUCTION
 JOMARIE WASKO-DIRECTOR OF PUBLIC SERVICE
 TYPICAL CONSTRUCTION
 CURB RAMPS
 NOT TO SCALE

REVISED 1.21.21.0a

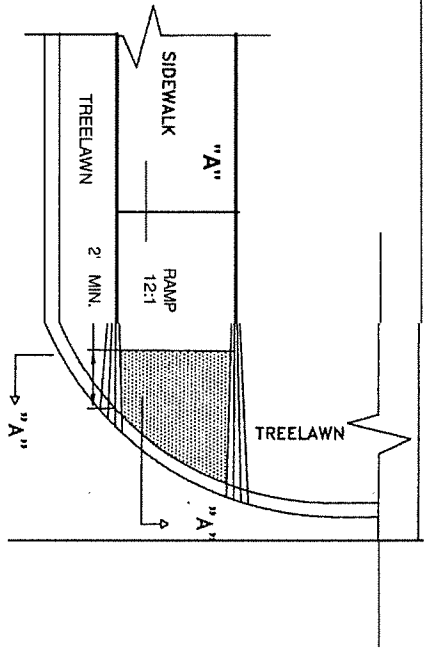
DRAWN BY: **A. ELIDONISIKAS** DATE: 4/11/11
 SUBMITTED BY: **W. MCALOUGHLIN** DATE: 4/11/11

APPROVED: **Foran** DATE: **4/11/11**

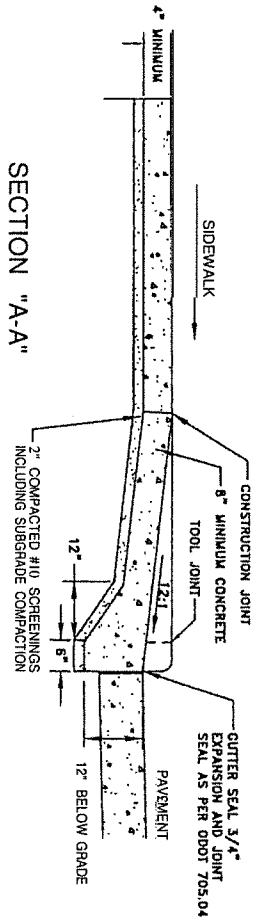
COMMISSIONER OF ENGINEERING AND CONSTRUCTION

FILE NO.: CH 1 SHEET 56

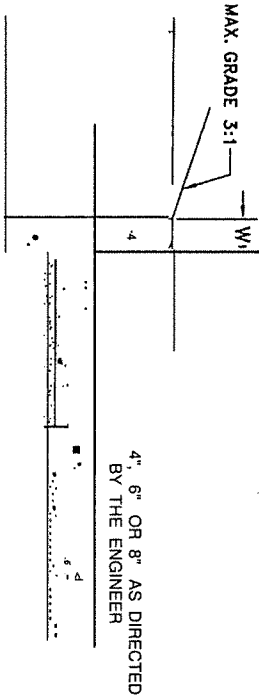
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SECTION "A-A"



- 1 - WHERE A ROLLED CURB EXCEEDS SIX INCHES ABOVE THE WALK, THE CONTRACTOR SHALL INSTALL TYPE "6" CURB (6" X 18"). ROLLED CURB SHALL BE INSTALLED ONLY AT THE DIRECTION OF THE ENGINEER.
- 2 - THE BOTTOM EDGE OF THE CURB SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT AND GUTTER LINE.
- 3 - SURFACE TEXTURE OF ALL RAMPS SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE RAMP SLOPES AS DIRECTED BY THE ENGINEER AND SHALL BE ROUGHER THAN ADJACENT WALK.
- 4 - THIS DETAIL SHALL ONLY BE USED TO RETROFIT EXISTING CURB RAMPS AND SHALL NOT BE USED FOR NEW CURB RAMP CONSTRUCTION.



H1	W1	H2	H3
6"	6"	6"	12"
8"	6"	10"	18"
10"	8"	12"	22"
12"	10"	12"	24"

ROLLED CURB
INSTALL ONLY AT THE DIRECTION
OF THE ENGINEER

2" COMPACTED #10 SCREENINGS
INCLUDING SUBGRADE COMPACTION

- NOTES:**
- 1 - WHERE A ROLLED CURB EXCEEDS SIX INCHES ABOVE THE WALK, THE CONTRACTOR SHALL INSTALL CURB PER THIS DETAIL. ROLLED CURB SHALL BE INSTALLED ONLY AT THE DIRECTION OF THE ENGINEER.

REVISED: 12/11/09

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JONAHIE WASK-DIRECTOR OF PUBLIC SERVICE
TYPICAL CONSTRUCTION
CURB RAMPS & ROLLED CURB DETAIL
NOT TO SCALE

SUBMITTED BY: **A. BLODZINSKAS**
M. KOLAUDELIN
DATE: 4/18/08
DATE: 4/11/08

COMMISSIONER OF ENGINEERING AND CONSTRUCTION
FILE NO.: CR 1 SHEET 66