ADDENDUM No. 1

ITB No. 4685

2021 SIDEWALK GAP ELIMINATION

Bids Due: June 24, 2021 at 2:00PM (Local Time)

The information contained herein shall take precedence over the original documents and all previous addenda (if any) and is appended thereto. **This Addendum includes eighty-one (81) pages. The entire drawing set has been included herein but only the drawings indicated on page Addendum-1-3 have been revised.**

Bidder is to acknowledge receipt of this Addendum No. 1, including all attachments (if any) in its Bid by so indicating on page ITB-1 of the Invitation to Bid Form. Bids submitted without acknowledgment of receipt of this addendum may be considered nonconforming.

The following forms provided within the ITB document should be included in submitted bids:

- **City of Ann Arbor Prevailing Wage Declaration of Compliance**
- **City of Ann Arbor Living Wage Ordinance Declaration of Compliance**
- **Vendor Conflict of Interest Disclosure Form**
- **City of Ann Arbor Non-Discrimination Ordinance Declaration of Compliance**

Bids that fail to provide these forms listed above upon bid opening may be rejected as non-responsive and may not be considered for award.

I. CORRECTIONS/ADDITIONS/DELETIONS

Changes to the Bid document which are outlined below are referenced to a page or Section in which they appear conspicuously. The Bidder is to take note in its review of the documents and include these changes as they may affect work or details in other areas not specifically referenced here.

Section/Page(s) As provided in ITB No. 4669 Bid Document:	**Change** As updated/replaced herein Addendum 1:
Bid Forms/ BF-1 to BF-2	Bid Form – Schedule of Prices, Pages Addendum1-BF-1 to Addendum1-BF-2. Pay Items revised: • 201 revised maximum • 202 revised maximum • 204 revised maximum • 213 and 214 revised units • Revised quantity: 215, 216, 231-250, 252, 260-269, 271-275, 702 • 1st 250 eliminated • 251 revised description to eliminate fibermesh

	• Former 276 renumbered to be 274
Section/Page(s) As provided in ITB No. 4669 Bid Document:	**Change** As updated/replaced herein Addendum 1:
Bid Forms/ BF-1 thru BF-2	Pay Items revised (continued): • 275 description revised to match plan detail • 276 added pursuant to changes on Sheet 25. • Added 292 for potential encounter
Detailed Specifications/ Pages DS-1 to DS-2	Pages Addendum1-DS-1 to Addendum1-DS-2: • Construction activities shall not be at more than one location at the same time. • Traver Blvd. area new sidewalk open and temporary route removed by August 30, 2021. • Reference to Traffic Control and General Conditions pay items revised to reflect updated Bid Form maximums.
Detailed Specifications/ Pages DS-17 to DS-20	Pages Addendum1-DS-3 to Addendum1-DS-6; to reflect updated Bid Form maximums.
Detailed Specifications/ Pages DS-21 to DS-23	Pages Addendum1-DS-7 to Addendum1-DS-9; corrected pay item number.
Detailed Specifications	Pages Addendum1-DS-10 to Addendum1-DS-13; added Detailed Specification for Item #204 - Minor Traffic Devices.
Detailed Specifications	Page Addendum1-DS-14; added Detailed Specification for Item #206 – No Parking Signs.
Detailed Specifications	Pages Addendum1-DS-15 to Addendum1-DS-16; added Detailed Specification for Item #208 - Restoration.
Detailed Specifications/ Pages DS-21 to DS-23	Pages Addendum1-DS-17 to Addendum1-DS-18; removed bolded statement regarding seven (7) days to complete final patching; added additional Item of Work “Sand Subbase Course, Class II C.I.P.” as directed.
Detailed Specifications	Pages Addendum1-DS-19 to Addendum1-DS-20; added Detailed Specifications for Items #230 and #231.
Detailed Specifications/ Page DS-33	Page Addendum1-DS-21; corrected pay item number.
Detailed Specifications	Pages Addendum1-DS-22 to Addendum1-DS-23; added Detailed Specifications for Items #233 - #234.
Detailed Specifications/ Pages DS-39 to DS-40	Pages Addendum1-DS-24 to Addendum1-DS-25; corrected pay item number.
Detailed Specifications/ Pages DS-35 to DS-37	Pages Addendum1-DS-27 to Addendum1-DS-29; corrected pay item numbers and added Item #251

Detailed Specifications/ Pages DS-31 to DS-32	Pages Addendum1-DS-30 to Addendum1-DS-31; corrected pay item number.
Detailed Specifications	Page Addendum1-DS-32; Added Detailed Specification for #253
Detailed Specifications	Pages Addendum1-DS-33 to Addendum1-DS-35; Added Detailed Specifications for #264 – #277.
Detailed Specifications	Pages Addendum1-DS-36 to Addendum1-DS-38; Added Detailed Specifications for #278 – #279.
Detailed Specifications	Pages Addendum1-DS-39 to Addendum1-DS-41; Added Detailed Specification for #280.
Detailed Specifications	Pages Addendum1-DS-42 to Addendum1-DS-43; Added Detailed Specification for #290.
Detailed Specifications	Pages Addendum1-DS-44 to Addendum1-DS-45; Added Detailed Specifications for #291 - #293.
Detailed Specifications	Page Addendum1-DS-46; Added Detailed Specification for #702
The entire drawing set has been included herein but only the following drawings have been revised:	
Drawings/1	Revised Sheet List Table.
Drawings/2	Revised Construction Notes 7-9, 12, 14.
Drawings/11	Revised sidewalk type on the southwest corner of Barton and Northside.
Drawings/11-13	Profile grade labels indicate location south face of walk.
Drawings/17	Extended lane closure on north side; indicated temporary pavement markings; added pedestrian routing.
Drawings/18-19	Reduced removal and replacement limits on south side at east and west ends; added temporary grading easement.
Drawings/20-21	Added profile information.
Drawings/23	Removed barricades at southerly most driveway
Drawings/24	Revised sidewalk type through driveways to eliminate fibermesh
Drawings/25	Added pedestrian routing; reduced scope of MOT, eliminating north side of Traver and corners of Traver and Lakehurst/Lancashire intersection.
Drawings/26-29	Eliminated removal and replacement in median, at north side of Traver, and at all corners of Traver and Lakehurst/Lancashire intersection; eliminated extension of median at east leg of Traver and Lakehurst intersection.

II. QUESTIONS AND ANSWERS

The following Questions have been received by the City. Responses are being provided in accordance with the terms of the ITB. Bidders are directed to take note in their review of the documents of the following questions and City responses as they affect work or details in other areas not specifically referenced here.

Question 1: Is the City going to offer a multiple year contract, or offer yearly renewal options, for the Sidewalk Gap Elimination program since it is newly funded by a New Sidewalk Millage?

Answer 1: **The City cannot offer a multiple year contract or yearly renewal option for this project due to time constraints. Next year's segments have not been programmed yet and therefore the potentially unique needs in those segments cannot be known and captured in this contract. However, a multiple year contract will be considered where feasible.**

Bidders are responsible for any conclusions that they may draw from the information contained in the Addendum.

BID FORM

SCHEDULE OF PRICES

Item	Description	Unit	Estimated Quantity		Unit Price			Total Price
130	Protective Fencing	FT	1000	$			$	
201	Project Supervision, Max $9,000.00	LS	1	$			$	
202	General Conditions, Max. $12,500.00	LS	1	$			$	
203	Digital Audio Visual Coverage	LS	1	$			$	
204	Minor Traffic Devices, Max $5,000.00	LS	1	$			$	
206	"No Parking" Signs	EA	10	$			$	
207	Certified Payroll Compliance and Reporting	LS	1	$			$	
208	Restoration	SYD	1000	$			$	
213	HMA Pathway Removal, Any Depth	SFT	7650	$			$	
214	HMA Pavement Removal, Any Depth	SFT	2250	$			$	
215	Remove Concrete Curb or Curb and Gutter - Any Type	FT	350	$			$	
216	Remove Concrete Sidewalk and Drive - Any Thickness	SFT	2900	$			$	
230	Station Grading	LF	3500	$			$	
231	Sidewalk Ramp Grading	EA	13	$			$	
232	Subgrade Undercutting - Type II	CYD	10	$			$	
233	Sand Subbase Course, Class II - C.I.P.	CYD	200	$			$	
234	21AA Limestone, C.I.P.	CYD	10	$			$	
242	HMA Approach	TON	40	$			$	
243	HMA Hand Patching	TON	25	$			$	
246	Concrete Curb or Curb and Gutter - All Types	FT	400	$			$	
247	4 Inch Concrete Sidewalk	SFT	14500	$			$	
248	6 Inch Concrete Sidewalk Ramp	SFT	2000	$			$	
249	6 Inch Concrete Drive or Sidewalk - High Early	SFT	1000	$			$	
250	8 Inch Concrete Drive/Sidewalk with Fibermesh Reinf.	SFT	200	$			$	
251	8 Inch Concrete Drive/Sidewalk - High Early	SFT	400	$			$	
252	Detectable Warning, Cast In Place	SFT	200	$			$	
	TOTAL THIS PAGE (BF-1) (Also to be entered on BF-2)			$				

BID FORM

SCHEDULE OF PRICES

Item	Description	Unit	Estimated Quantity		Unit Price			Total Price
260	Pavt Mrkg, Ovly Cold Plastic, 12 inch, Crosswalk	FT	400	$			$	
264	Pavt Mrg Cover, Type R, Black	FT	200	$			$	
266	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp	FT	600	$			$	
267	Pavt Mrkg, Wet Reflective, Type R, Tape, 6 inch, White, Temp	FT	850	$			$	
269	Lighted Arrow Board, Furnish and Operate	EA	1	$			$	
270	Sign, Portable Changeable Message, Furnish and Operate	EA	4	$			$	
271	Plastic Drum - Lighted, Furnish and Operate	EA	250	$			$	
272	Barricade Type III - Lighted, Furnish and Operate	EA	25	$			$	
273	Temporary Sign, Type B, Furnish and Operate	SFT	300	$			$	
274	Sidewalk Barricade (Type II)	EA	8	$			$	
275	Pedestrian Channelizer, Temp	EA	12	$			$	
276	Pedestrian Channelizer Barrier, Temp	EA	160	$			$	
277	Sign Cover	EA	10	$			$	
278	Temporary Pedestrian Ramp	EA	4	$			$	
279	Temporary Pedestrian Mat	EA	4	$			$	
280	Audible Message Device	EA	2	$			$	
290	Underground Sprinkling Systems, Restore	DLR	10000	$			$	10,000
291	Adjust Structure Cover	EA	2	$			$	
292	Adjust Monument Box, Valve Box, or Gas Box	EA	4	$			$	
293	Structure Covers	LBS	200	$			$	
702	Erosion Control, Inlet Protection	EA	30	$			$	
	TOTAL THIS PAGE (BF-2) (Also to be entered below)			$				
	TOTAL FROM PAGE BF-1			$				
	TOTAL FROM PAGE BF-2			$				
	TOTAL BASE BID			**$**				

DETAILED SPECIFICATION
FOR
PROJECT SCHEDULE

The Contractor shall begin work on this Contract within one week of the receipt of the Notice to Proceed. In no case shall any work begin prior to receipt of formal notice of award by the City of Ann Arbor, expected to be on August 2, 2021.

The estimated start date of construction activities is **August 9, 2021**.

This contract requires sidewalk, ramp, paving and pavement marking work at four separate locations (Work Areas), and shall be completed sequentially as listed below. With the exception of setting up/removing traffic control devices and restoration, the contractor may not perform any construction activities at more than one location at the same time.

The entire work of this Contract including all final asphalt patching, final clean-up and the completion of all restoration, and any other related project work shall be completed on, or before, November 15, 2021.

In addition to the final completion date, the contract also includes intermediate completion dates detailed as follows:

> **Traver Boulevard Work Area** - This area is in close proximity to schools that will be open to students starting August 30, 2021. The new concrete sidewalk shall be open and the temporary alternate pedestrian route and barricades shall be removed by **August 30, 2021**.
>
> **Barton Drive Work Area** – The entire work at this location as required by this Contract, including stabilization of all disturbed areas shall be completed by **September 25, 2021**.
>
> **Stimson Street and State Street Work Area** – This area is in close proximity to the U of M Stadium, and no home games are scheduled between **September 27, 2021 - October 21, 2021**. Therefore, the entire work at this location shall not commence until **September 27, 2021** and shall be complete by **October 21, 2021**, including stabilization of all disturbed areas.
>
> **Boardwalk Drive Work Area** - The entire work at this location as required by this Contract, including stabilization of all disturbed areas shall be completed by **November 15, 2021**.

This project is on an expedited schedule. Time is of the essence in the performance of the work of this contract. The Contractor is expected to mobilize sufficient personnel and equipment, and work the required overtime to complete the project by the dates specified herein. Once construction has commenced, the Contractor shall work continuously on the project until it is satisfactorily completed and approved in writing by the Engineer. The Contractor shall not suspend work on this project unless authorized in writing by the Engineer or stipulated elsewhere in the contract documents. Should the Contractor demonstrate that they must work on some Sundays in order to maintain the project schedule, they may do so between the hours of 9:00 a.m. and 5:00 p.m. with prior approval from the City. There will be no additional compensation due to the Contractor for work performed on Sundays.

Failure to complete work by the above described intermediate and final completion dates shall require the Contractor to pay the City as Liquidated Damages, and not as penalty, the sum of $750.00 dollars for each and every calendar day that the Contractor may be in default of completion of the specified work, within the time(s) stated in the Contract, or time extension(s) granted thereto.

All liquidated damages amounts are additive and may be charged concurrently. Should the Engineer approve a request for an extension of contract time and/or revise any intermediate or final completion date, liquidated damages will be based on the revised dates for which the time extensions specifically apply. Liquidated Damages will be charged for incomplete work during periods of seasonal suspensions.

The Detailed Specification entitled **"Traffic Control, Max $5,000"** shall govern the performance and execution of all construction operations.

Prior to the start of any construction, the Contractor shall submit a detailed schedule of work for the Engineer's review and acceptance. Work shall not commence until a satisfactory progress schedule is accepted in writing by the Engineer. The proposed progress schedule must fully comply with the scheduling requirements contained in this Detailed Specification. The schedule shall clearly indicate, in detail, the start and the completion date for each Work Area (as described above) and the starting and completion dates for work on each street within the area. "Completion of Work" within an area is defined as the completion of the work as specified herein and as directed by the Engineer, including, but not limited to; completion of all driveway and sidewalk construction; final HMA patching; all surface restoration including the placement of Engineer-approved topsoil, seed, and mulch blankets; plantings; clean-up of all disturbed areas including street cleaning; and, the removal of all temporary traffic control devices and "No Parking" signs.

Initial inspections and markings for removal/repair and replacement shall be performed by the City in advance of the Contractor's work in an Area, based on the Contractor's approved work schedule, and City personnel availability. The Contractor may not start work in a new Area until work has been completed and approved by the Engineer in the previous Area, unless permission is granted in writing by the Engineer.

The Contractor shall provide written, updated, revisions to the approved progress schedule each week and present it to the Engineer at the weekly progress meeting, and must obtain the Engineer's approval for any proposed deviations from the most current, approved, schedule.

Costs for the Contractor to organize, coordinate, and schedule all of the work of the project, will not be paid for separately, but shall be considered to be included in the bid price of the Contract Item **"General Conditions, Max $12,500."**

DETAILED SPECIFICATION
FOR
ITEM #201 - PROJECT SUPERVISION, MAX $9,000

DESCRIPTION

The Contractor shall designate a full-time Project Supervisor to act as the Contractor's agent/representative, and to be responsible for scheduling and coordination of all subcontractors, suppliers, other governmental agencies, and all public and private utility companies.

The Project Supervisor shall not be an active crew member of the Contractor, shall not be an active member or employee of any subcontractor's work force, and shall not perform general or specialized labor tasks.

The Project Supervisor shall work exclusively on this project, and shall put forth his/her full effort into the organization and coordination of the work of this project.

Prior to the pre-construction meeting, the Contractor shall designate a proposed Project Supervisor by name, and shall furnish the City with a current, thorough, detailed summary of the proposed Project Supervisor's work history, outlining all previous supervisory experience on projects of a similar size and nature. The detailed work history shall include personal and professional references (names and phone numbers) of persons (previous owners or agents) who can attest to the qualifications and work history of the proposed Project Supervisor. Proposed candidates for Project Supervisor shall have a demonstrated ability to work harmoniously with the City, the public, subcontractors, and all other parties typically involved with work of this nature. The Supervising Professional will have the authority to reject a proposed Project Supervisor whom he/she considers unqualified.

The Project Supervisor shall be available 24 hours-per-day to provide proper supervision, coordination and scheduling of the project for the duration of the Contract. The Contractor shall furnish the City with telephone numbers of the Project Supervisor in order to provide 24 hour-per-day access during business and non-business hours, including weekends and holidays.

The Project Supervisor shall be equipped by the Contractor with a mobile telephone to provide the City with 24 hour-per-day access to him/her during daily construction activities, during transit to and from the construction site, and during all non-business hours including weekends and holidays.

The Project Supervisor shall be equipped with assistants as necessary to provide project supervision as specified herein, and in accordance with the Contract.

DUTIES AND RESPONSIBILITIES

The Project Supervisor work harmoniously with the City, the public, subcontractors, and all other parties typically involved with work of this nature.

The Project Supervisor shall have a thorough, detailed understanding and working knowledge of all construction practices and methods specified elsewhere herein, as well as the handling, placement, testing and inspection of aggregates, aggregate products, HMA concrete, and portland cement concrete materials.

The Project Supervisor shall be responsible for all of the work of all of the Contractor's, subcontractors' and suppliers' work forces.

The Project Supervisor shall be responsible for proper and adequate maintenance (emissions, safety, and general operation) of all of the Contractor's, subcontractors' and suppliers' equipment and vehicles.

The Project Supervisor shall be responsible for the legal, proper and safe parking/storage of all of the Contractor's, subcontractors' and suppliers' equipment, work vehicles, and employee's vehicles.

The Project Supervisor shall schedule and coordinate the work of all parties involved in the project, including utility companies, testing agencies, governmental agencies, all City departments (such as Utilities and Transportation), and City inspectors.

The Project Supervisor shall coordinate and schedule the work of any independent survey crews that may be retained by the City to witness and reset existing and new geographic/benchmark monuments. Failure to have existing monuments witnessed and reset may result in delays to the Contractor's work. Costs for such delays will be the Contractor's sole responsibility.

The Project Supervisor shall coordinate and schedule both Testing inspectors and City inspectors in a timely manner, to assure proper and timely testing and inspection of the work.

The Project Supervisor shall review the Inspector's Daily Reports (IDRs) for accuracy, and shall sign all IDRs on a daily basis as the representative of the Contractor. Items to be reviewed include descriptions, locations and measurements of quantities of work performed, workforce, equipment, and weather. The Project Supervisor shall also be responsible for its subcontractors' review and initialing of IDRs containing work items performed by each respective subcontractors.

The Project Supervisor shall submit to the Engineer, an updated, detailed schedule of the proposed work on a weekly basis, and an update of all proposed changes on a daily basis, all in accordance with the Detailed Specification for Project Schedule contained elsewhere herein.

The Project Supervisor shall schedule and chair a weekly progress meeting with the Engineer and all subcontractors to discuss the work. Upon the completion of each meeting, the Project Supervisor shall prepare and distribute, to all present, a written summary of the meeting's minutes. Those in attendance shall review the minutes and, if necessary, comment on any deficiencies or errors prior to or at the next scheduled progress meeting.

ADDITIONAL PERFORMANCE REQUIREMENTS

If, in the sole opinion of the Supervising Professional, the Project Supervisor is not adequately performing the duties as outlined in this Detailed Specification, the following system of notices will be given to the contractor with the associated penalties:

First Notice – A warning will be issued in writing to the contractor detailing the deficiencies in the Project Supervision. The contractor must respond within 7 calendar days in writing with a plan to correct the stated deficiencies. Failure to respond within 7 calendar days will result in the issuing of a second notice.

Second Notice – A second warning will be issued in writing to the contractor further detailing the deficiencies in the Project Supervision. The contractor must respond within 7 calendar days in writing with a plan to correct the stated deficiencies. Failure to respond within 7 calendar days will result in the issuing of a third notice. A deduction of 10% will be made from the original Project Supervision contract amount. At this time, the City

reserves the right to meet with personnel with the necessary authority within the Contractor's organization to discuss the deficiencies in the Project Supervision.

Third Notice – An additional deduction of 25% will be made from the original Project Supervision contract amount, and the Project Supervisor shall be removed from the project, and replaced immediately with another individual to be approved by the Supervising Professional.

Should, in the sole opinion of the Supervising Professional, the Project Supervisor fail to perform his/her duties and responsibilities as described herein to such a degree that the successful completion of the project is put in jeopardy, the above system of notices may be foregone, and the Contractor shall immediately replace the Project Supervisor upon receipt of written notice. Failure to provide adequate project supervision, as determined by the Engineer, shall be considered basis for the Supervising Professional to suspend work without extension of contract time or additional compensation.

MEASUREMENT AND PAYMENT

This item of work will be paid for on a pro rata basis at the time of each progress payment. Measurement will be based on the ratio between work completed during the payment period and the total contract amount. When all of the work of this Contract has been completed, the measurement of this item shall be 1.0 Lump Sum, minus any deductions incurred for inadequate performance as described herein. This amount will not be increased for any reason, including extensions of time, extras, and/or additional work.

The completed work as measured for this item of work will be paid for at the Contract Unit Price for the following Contract (Pay) Item:

PAY ITEM	**PAY UNIT**
Project Supervision, Max $9,000	Lump Sum

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

DETAILED SPECIFICATION
FOR
ITEM #202 - GENERAL CONDITIONS, MAX $12,500

DESCRIPTION

This item shall include all work described and required by the Plans and Specifications for which no item of work is listed in the Bid Form, including but not limited to:

- Scheduling and organization of all work, subcontractors, suppliers, testing, inspection, surveying, and staking
- Coordination of, and cooperation with, other contractors, agencies, departments, and utilities
- Protection and maintenance of Utilities
- Placing, maintaining, and removing all soil erosion and sedimentation controls
- Maintaining drainage
- Maintaining drives, drive openings, sidewalks, bike paths, mail deliveries, and solid waste/recyclepick-ups
- Storing all materials and equipment off lawn areas
- Temporary relocation and final replacement/re-setting of mailboxes
- Site clean-up
- Coordination efforts to furnish various HMA mixtures as directed by the Engineer
- Coordination efforts to furnish and operate various-size vehicles/equipment as directed by the Engineer
- Furnishing and operating vacuum-type street cleaning equipment
- Furnishing and operating vacuum-type utility structure cleaning equipment
- Furnishing and operating both vibratory plate and pneumatic-type ("pogo-stick") compactors
- Furnishing and operating a backhoe during all work activities
- Furnishing and operating a jackhammer and air compressor during all work activities
- Noise and dust control
- Mobilization(s) and demobilization(s)
- Furnishing submittals and certifications for materials and supplies
- Parking meter bags
- Disposing of excavated materials and debris
- All miscellaneous and incidental items such as overhead, insurance, and permits.

MEASUREMENT AND PAYMENT

This item of work will be paid for on a pro rata basis at the time of each progress payment. Measurement will be based on the ratio between work completed during the payment period and the total contract amount. When all of the work of this Contract has been completed, the measurement of this item shall be 1.0 Lump Sum. This amount will not be increased for any reason, including extensions of time, extras, and/or additional work.

The completed work as measured for this item of work will be paid for at the Contract Unit Price for the following Contract (Pay) Item:

PAY ITEM	PAY UNIT
General Conditions, Max $12,500	Lump Sum

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

DETAILED SPECIFICATION
FOR
ITEM #203 – DIGITAL AUDIOVISUAL COVERAGE

DESCRIPTION

This work shall include digital audiovisual record of the physical, structural, and aesthetic conditions of the construction site and adjacent areas as provided herein. This work will be performed for the entire project limits prior to the start of construction.

The audiovisual filming shall be:

1. Of professional quality, providing a clear and accurate audio and visual record of existing conditions.
2. Prepared within the two (2) week period immediately prior to the start of construction.
3. Furnished to the Engineer prior to bringing any materials or equipment within the areas described in this Detailed Specification.
4. Carried-out under the supervision of the Engineer.

The Contractor shall furnish one (1) copy of the completed audiovisual record to the Engineer. An index of the footage shall be included, which will enable any particular area of the project to be easily found. **This includes indexing the files according to street and Station number as applicable.** The Contractor shall retain a second copy of the audiovisual record for his/her own use.

Any portion of the film determined by the Engineer to be unacceptable for the documentation of existing conditions shall be filmed again at the Contractor's sole expense prior to mobilizing onto the site.

PRODUCTION

The audiovisual filming shall be completed in accordance with the following minimum requirements:

1. DVD Format, No Editing - The filming shall be done in color using equipment that allows audio and visual information to be recorded. Editing of the video shall not be allowed and the speed and electronics of the recording equipment and DVD shall be equal to that which is standard to the videoing industry.

2. Perspective / Speed / Pan / Zoom - To ensure proper perspective, the distance from the ground to the camera lens shall not be less than 10 feet and the filming must proceed in the general direction of travel at a speed not to exceed 48 feet per minute. Pan and zoom rates shall be controlled sufficiently so that playback will ensure quality of the object viewed.

3. Display - The recording equipment shall have transparent time, date stamp and digital annotation capabilities. The final copies of the video shall continuously and simultaneously display the time (hours:minutes:seconds) and the date (month/date/year) in the upper left-hand corner of the frame. Accurate project stationing, where applicable, shall be included in the lower half of the frame in standard format (i.e. 1+00). Below the stationing periodic information is to be shown, including project name, name of area shown, street address, direction of travel, viewing direction, etc. If in the event, the stationing has not been established on-site, refer to the plans and approximate the proposed stationing.

4. Audio Commentary / Visual Features. Locations relative to project limits and landmarks must be identified by both audio and video means at intervals no longer than 100 feet along the filming route. Additional audio commentary shall be provided as necessary during filming to describe streets, buildings, landmarks, and other details, which will enhance the record of existing conditions.

5. Visibility / Ground Cover - The filming shall be performed during a time of good visibility. Filming shall not be performed during periods of precipitation or when snow, leaves, or other natural debris obstruct the area being filmed. The Contractor shall notify the Engineer in writing in the event that the weather or snow cover is anticipated to cause a delay in filming.

COVERAGE

The audiovisual film coverage shall include the following:

1. General Criteria - This general criteria shall apply to all filming and shall include all areas where construction activities will take place or where construction vehicles or equipment will be operated or parked and or where materials will be stored. The filming shall extend an additional 50 feet outside of all areas. The filming shall include all significant, existing man-made and natural features such as driveways, sidewalks, utility covers, utility markers, utility poles, other utility features, traffic signal structures and features, pubic signs, private signs, fences, landscaping, trees, shrubs, other vegetation, and other similar or significant features.

2. Other Areas - The Contractor shall film at his sole expense other areas where, in his/her opinion, the establishment of a record of existing conditions is warranted. The Contractor shall notify the Engineer in writing of such areas.

The Engineer may direct the filming of other minor areas not specified herein at the Contractor's sole expense.

AUDIOVISUAL FILMING SERVICES

The following companies are known to be capable of providing the filming services required by this Detailed Specification and shall be utilized, unless the Contractor receives prior written approval from the Engineer to utilize another company of comparable or superior qualifications.

Construction Video Media
Midwest Company
Topo Video, Inc.
Pre-Construction Media
Video Media Corp.
Finishing Touch Photo & Video

DETAILED SPECIFICATION
FOR
ITEM #203 – DIGITAL AUDIOVISUAL COVERAGE

3 of 3

MEASUREMENT AND PAYMENT

The completed work as measured for these items of work will be paid for at the Contract Unit Prices for the following Contract (Pay) Items:

PAY ITEM	PAY UNIT
Digital Audio Visual Coverage	Lump Sum

Audiovisual Coverage shall include all labor, equipment, and materials required to perform the filming and to provide the finished video the Engineer. The unit price includes filming the entire project limits, for each and every project location, as described above.

DETAILED SPECIFICATION
FOR
ITEM #204 - MINOR TRAFFIC DEVICES, Max. $5,000

DESCRIPTION

The work of Temporary Traffic Devices shall consist of protecting and maintaining vehicular and pedestrian traffic as shown on the plans, in the Maintenance of Traffic specification, and as directed by the Engineer, in accordance with Sections 103.05, 103.06, and 812 of the 2012 MDOT Standard Specifications for Construction; Part 6 of the Michigan Manual of Uniform Traffic Control Devices, Latest Revised Edition (MMUTCD); and the City Standard Specifications, except as modified herein. These devices include, but not limited to, advance, regulatory, and warning signs; barricades and channeling devices at intersecting streets on which traffic is to be maintained; barricades at the ends of the project and at right-of-way lines of intersecting streets; changeable message signs; lighted arrow boards; sign/signal covers and pavement marking cover tape for construction operations.

The work of Minor Traffic Devices shall include, but not be limited to:

- The furnishing and operating of miscellaneous signs, warning devices, flag-persons, and cones;
- The operation of additional signs furnished by the City;
- Furnishing and installing meter bags;
- Coordinating with the City to have meter heads removed and reinstalled;
- Maintaining pedestrian traffic;
- Temporarily covering traffic controls;
- Temporarily covering existing signs as directed;
- Temporarily covering existing pavement markings and symbols as directed;
- Any and all other miscellaneous and/or incidental items which are necessary to properly perform the work.

The Contractor shall maintain vehicular and pedestrian traffic during the work by the use of flag-persons, channelizing devices, and signs as necessary, as directed by the Engineer, and in accordance with MMUTCD. Typical applications for maintaining pedestrian traffic in accordance with the MMUTCD are included in this detailed specification.

MATERIALS, EQUIPMENT, AND CONSTRUCTION METHODS

General

Materials and equipment shall meet the requirements specified in the above-designated sections of the MDOT Standard Specifications.

All temporary traffic/pedestrian control devices furnished by the Contractor shall remain the property of the Contractor. The City shall not be responsible for stolen or damaged signs, barricades, barricade lights or other traffic maintenance items. The Contractor shall replace missing traffic control devices immediately, at no additional cost to the City.

All existing signs, and signs erected by the City of Ann Arbor on this project shall be preserved, protected, and maintained by the Contractor. Existing City owned signs which are damaged by the Contractor during the work will be repaired by the City at the Contractor's expense.

The Contractor shall temporarily cover conflicting traffic and/or parking signs when directed by the Engineer.

When traffic control devices have been damaged by, or due to, the negligence of the Contractor, his subcontractors or material suppliers, the traffic control devices shall be replaced at the Contractor's expense.

Lighted Plastic Drums; Barricades; Temporary Signs; Portable Changeable Message Signs; Lighted Arrow Boards; Pavement Marking Cover Tape; Temporary Pavement Markings

The Contractor shall furnish and operate these items as directed by the Engineer.

Traffic control devices meeting current MDOT and MMUTCD specifications shall be used on this project.

Lighted plastic drums shall be sufficiently ballasted to minimize tipping.

Type I and III barricades shall have standard orange-and-white stripes on both sides of the barricade.

Sufficient signs shall be provided by the Contractor to ensure the safety of the workers and the general public in accordance with the current MMUTCD.

"Road Work Ahead" warning signs shall be placed, as indicated on the Plans, or as directed by the Engineer, prior to the start of work, regardless of the nature, magnitude or duration of the work.

Removable black pavement marking cover tape shall be used to cover conflicting pavement markings as directed by the Engineer.

Temporary pavement markings may be used within transition areas as directed by the Engineer and shall be removable.

MEASUREMENT AND PAYMENT

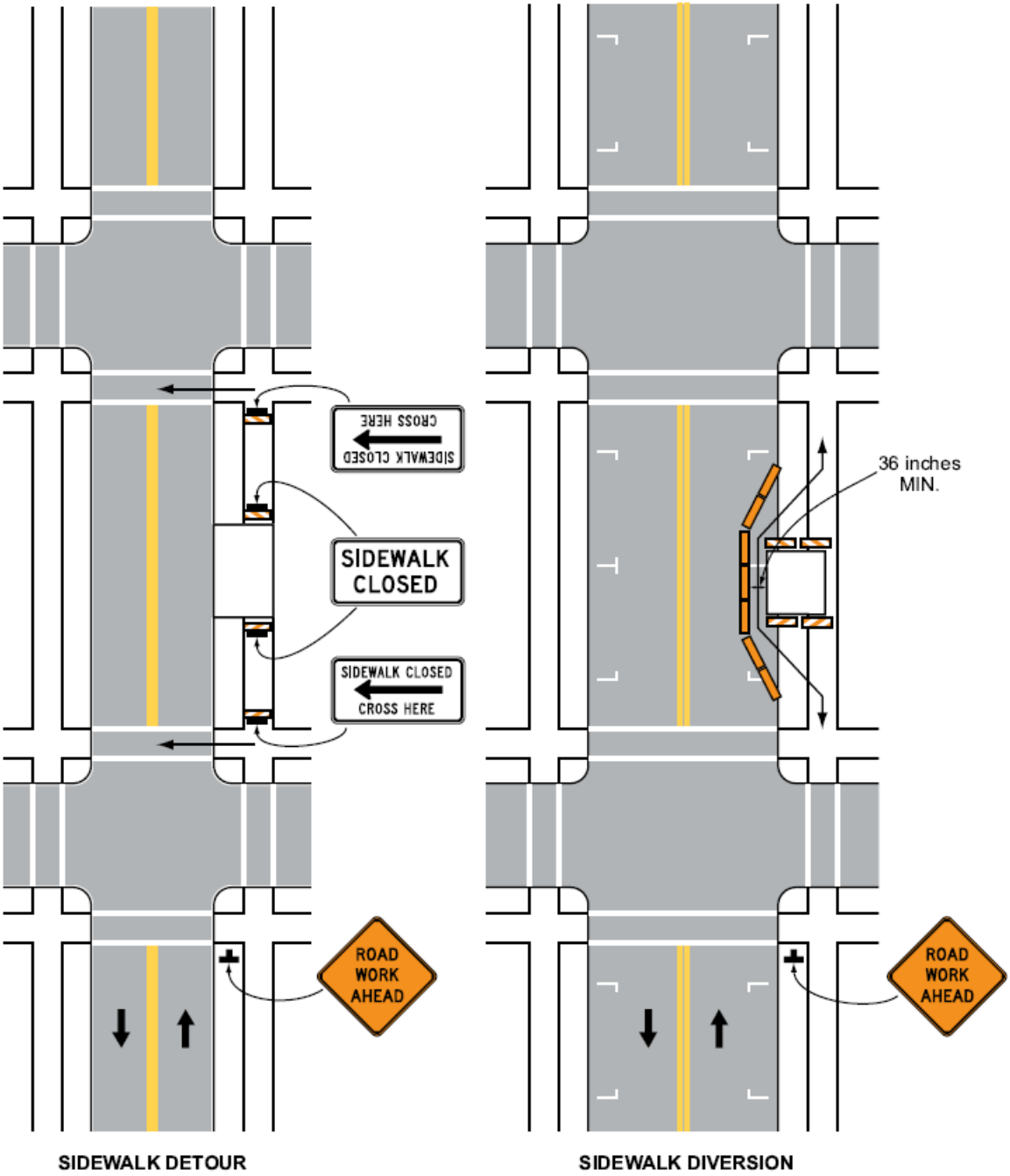
This item of work will be paid for on a pro rata basis at the time of each progress payment. Measurement will be based on the ratio between work completed during the payment period and the total contract amount. When all of the work of this Contract has been completed, the measurement of this item shall be 1.0 Lump Sum.

The completed work as measured for this item of work will be paid for at the Contract Unit Price for the following Contract (Pay) Item:

PAY ITEM	PAY UNIT
Minor Traffic Devices, Max $5,000	Lump Sum

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

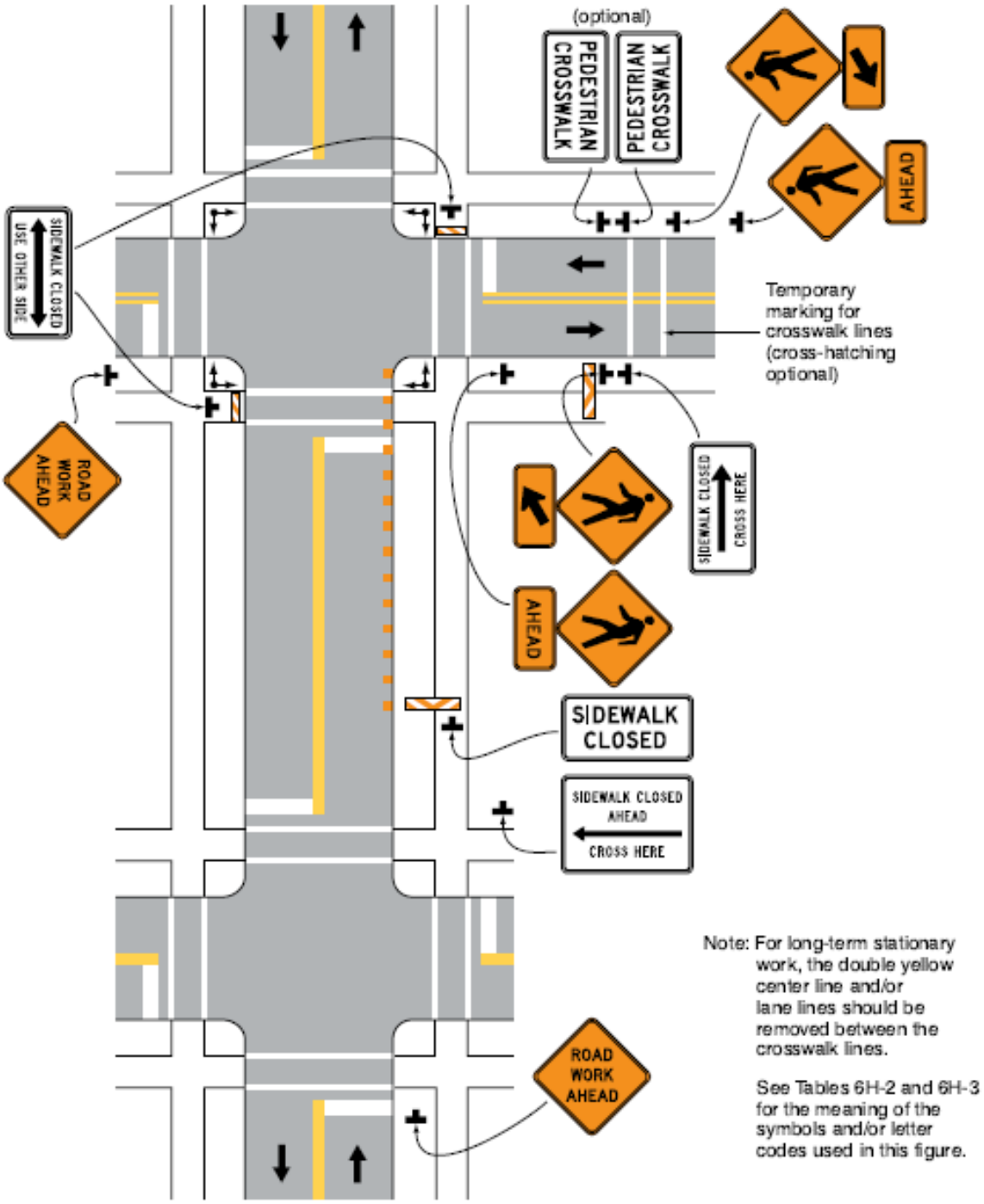
Figure 6H-28. Sidewalk Detour or Diversion (TA-28)



Typical Application 28

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Figure 6H-29. Crosswalk Closures and Pedestrian Detours (TA-29)



Typical Application 29

DETAILED SPECIFICATION
FOR
ITEM #206 - "NO PARKING" SIGNS

DESCRIPTION

This work shall consist of installing, maintaining and removing of "No Parking" signs and posts, as outlined herein and as referenced on the plans. "No Parking" signs shall be installed in accordance with the Public Services Department Standard Specifications and the most recent version of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD).

MATERIAL

All materials for this work shall conform to the requirements of the Public Services Department Standard Specifications.

CONSTRUCTION METHODS

Prior to the commencement of any construction activity, the Contractor will be required to place "No Parking" signs where directed by the Engineer. The Contractor shall obtain a form for "Temporary Permission to Reserve Parking Lane for Work-Related Purposes" for each street from the City of Ann Arbor Engineering Unit. This form shall be submitted a minimum of five (5) days prior to the posting of "No Parking" signs. The issued permit must be printed and displayed on site at all times.

The City will furnish "No Parking" signs to the Contractor at no cost. The Contractor shall furnish the signposts and shall securely bolt the signs to the signposts as directed by the Engineer. After MISS DIG Clearance, the Contractor shall install the signposts at least two feet deep into the ground, and there shall be a minimum 6-foot and maximum 7-foot clearance maintained between the bottom of the sign and the ground. The signs are to be placed at 150-foot intervals (or as necessary) to eliminate parking in the construction area.

The installation of "No Parking" signs shall be in accordance with the permit. "No Parking" signs shall be installed by the Contractor, as directed by the Engineer, at least 48 hours prior to the proposed start-of-work/enforcement date. "No Parking" signs shall be returned to the City at the completion of the work. The cost of unreturned signs will be back-charged to the Contractor. "No Parking" signs shall be covered by the Contractor, thereby allowing on-street parking, whenever there is no work being performed for a period of time longer than 72 hours.

MEASUREMENT AND PAYMENT

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

"No Parking" signs will be measured as the maximum number installed on each street at any one time. The unit price includes the removal and return of "No Parking" signs to the City upon completion of the project. The Contractor shall be back-charged for the replacement costs for damaged or unreturned signs.

PAY ITEM	PAY UNIT
"No Parking" Signs	Each

DETAILED SPECIFICATION
FOR
ITEM #208 –RESTORATION

DESCRIPTION

This item of work shall conform to Item No. 882, "Seeding & Mulching" in Division IX, Section 6 Landscaping & Restoration Items of the Public Services Area Standard Specifications, except as specified herein.

This work shall include the removal of all surplus materials from the site including; but not limited to; tools, dirt, rubbish, construction debris, and excess excavated material. This work shall also include the restoration of all existing lawn areas, road surfaces, culverts, drives, and sidewalks disturbed by the work. This work includes placing topsoil, fertilizer, seeding, and furnishing and installing mulch blankets on all disturbed areas as approved by the Engineer. Mulch blankets are required on all seeded areas.

MATERIALS

The materials shall meet the requirements specified in the MDOT 2012 Standard Specifications as designated, as specified herein, and as approved by the Engineer:

- Seed shall be THM (Turf Loamy to Heavy) seed mixture as described in MDOT Table 816-1.
- Fertilizers shall be a Class A. The percentages by weight shall be 12- 12- 12, or as approved by the Engineer.
- Water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances.
- Mulch blankets shall be High Velocity Straw Mulch Blankets as specified in MDOT section 917.
- Topsoil shall be 4 inches furnished as specified in MDOT section 917

MAINTENANCE AND ACCEPTANCE

It is the responsibility of the Contractor to establish a dense lawn of permanent grasses, free from mounds and depressions prior to final acceptance and payment of this project. Any portion of a seeded area that fails to show a uniform germination shall be reseeded. Such reseeding shall be at the Contractor's expense and shall continue until a dense lawn is established. The Contractor is responsible for restoring all areas disturbed by his construction.

The Contractor shall maintain all lawn areas until they have been accepted by the Engineer. Lawn maintenance shall begin immediately after the grass seed is in place and continue until final acceptance with the following requirements:

Lawns shall be protected and maintained by watering, mowing, and reseeding as necessary, until the period of time when the final acceptance and payment is made by the Engineer for the project, to establish a uniform, weed-free, stand of the specified grasses. Maintenance includes furnishing and installing additional topsoil, and reseeding all as may be required to correct all settlement and erosion until the date of final acceptance.

Damage to seeded areas resulting from erosion shall be repaired by the Contractor at the Contractor's expense. Scattered bare spots in seeded areas will not be allowed over three (3) percent of the area nor greater than 6"x 6" in size.

DETAILED SPECIFICATION
FOR
ITEM #208 –RESTORATION

When the above requirements have been fulfilled, the Engineer will accept the lawn.

Cleanup and Restoration must be performed upon the completion of each stage of work, to prevent erosion, and not as one single operation at the completion of the entire project. Restoration work must be performed within one week of the placement of the wearing course for each street.

The Contractor shall restore all disturbed areas to better than or equal to their original condition.

MEASUREMENT AND PAYMENT

Measurement and payment of this item of work shall conform to Item No. 882, "Seeding & Mulching" in Division IX, Section 6 Landscaping & Restoration Items of the Public Services Area Standard Specifications, except as specified herein.

The completed work for "Clean-Up & Restoration, Special" will be paid for on a lump sum (LS) basis. 80% of said lump sum shall be paid upon completion and approval of the site by the Engineer. By May 31st of the year following the completion of the project, the Engineer will inspect the seeded turf to ensure that the end product is well established; weed free, and in a growing and vibrant condition. If the Engineer determines that the restored areas meet the project requirements, the remaining 20% of the lump sum will be paid. If the Engineer determines that the restored areas do not meet the project requirements, the Contractor will continue with any and all measures necessary to meet the project requirements. All costs associated with the remedial measures shall be borne entirely by the Contractor.

Pay Item	Pay Unit
Restoration	Syd

DETAILED SPECIFICATION
FOR
ITEM #213 - REMOVE HMA PATHWAY
ITEM #214 - REMOVE HMA PAVEMENT

DESCRIPTION

This work shall consist of removing HMA surface/base as described in Section 204 and Division 5 of the 2012 edition of the MDOT Standard Specifications for Construction, current supplemental MDOT specifications, and the City of Ann Arbor Standard Specifications, except as modified herein, and as directed by the Engineer.

CONSTRUCTION METHOD

The Contractor shall remove HMA surfaces, HMA bases, and brick bases of any thickness from any aggregate and/or concrete base course, without the removal of the aggregate or concrete base. Pavement removal limits shall be as directed by the Engineer.

The Contractor shall remove, salvage, deliver to any location within the City limits or City-owned property, and neatly stack/stockpile all bricks, if present, as directed by the Engineer.

The Contractor shall remove and properly dispose of all excavated material and debris, including all asphalt and concrete. The Contractor shall not stockpile excavated material overnight on, or adjacent to, the site.

The Contractor shall place millings or stone in excavated areas to maintain pedestrian access where pedestrian access is not otherwise provided. The Contractor shall protect removal areas with lighted drums until such areas have received final patching.

HMA surfaces/pavements shall be cut for removal by the use of saws, jackhammers and/or other methods approved by the Engineer. Backhoe teeth, jackhammers equipped with spike points, and backhoe-mounted wheel cutters shall not be used for cutting the edges of patches, but may be used to break up pavement within patch areas for removal. The edges of patches shall be cut horizontally and vertically straight and uniform (as judged by the Engineer), without damaging adjacent pavement.

Damage to adjacent pavement, pavement base, subbase, curb, gutter, sidewalk, utility structures, or other site features, due to removal operations shall be repaired by the Contractor, at the Contractor's expense, as directed by the Engineer.

The Contractor shall remove pavement/pavement base full-depth or to a depth of 4-inches, whichever is greater. Removal of all granular or clay material located within the 4-inch minimum thickness is included in this item of work. Any additional aggregate or clay base removed without written approval of the Engineer shall be replaced by the Contractor at the Contractor's expense with 21AA Aggregate compacted-in-place, or with HMA asphalt, as directed by the Engineer.

The Contractor shall remove and/or re-shape, re-grade, and re-compact the existing roadbed materials, and shall construct the roadway to the cross-section(s) as indicated on the Plans, as detailed in the Specifications, and as directed by the Engineer. The Contractor shall use blade graders, maintainers, vibratory rollers, and/or other equipment as necessary, and as directed by the Engineer. Use of each specific piece of equipment is subject to the approval of the Engineer.

The Engineer may direct aggregate base materials to be either removed from or added to the job-site, to properly complete the work. Where the Engineer directs the addition of such materials, they shall be paid for as the Item of Work: "21AA Limestone - C.I.P." or "Sand Subbase Course, Class II C.I.P.". Where the Engineer directs such materials to be removed, they will be paid for separately, as the Item of Work: "Subgrade Undercutting – Type II."

The Contractor shall construct butt-joints, and trim butt-joints just prior to HMA paving as shown on the Plans, and as directed by the Engineer.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

MEASUREMENT AND PAYMENT

The areas to be removed shall be marked and measured prior to the removal of any material. Measurement shall take place with both the Engineer and the Contractor (or their agents) present. Both parties shall come to an agreement regarding removal quantities prior to the actual removal of HMA pavement.

The completed work as measured for these items of work will be paid at the Contract Unit Prices for the following Contract (Pay) Item:

PAY ITEM	PAY UNIT
Remove HMA Pathway	Square Foot
Remove HMA Pavement	Square Foot

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

DETAILED SPECIFICATION
FOR
ITEM #230 – STATION GRADING
ITEM #231 – SIDEWALK RAMP GRADING

DESCRIPTION

Remove miscellaneous structures and materials and complete all earthwork required to construct the proposed cross sections within the limits shown on the plans or stated in this special provision. All lines and grades will be as shown on the plans and as directed by the Engineer. Complete this work according to the MDOT 2012 Standard Specifications for Construction and this special provision.

MATERIALS

Furnish and place required subbase and embankment material conforming to the MDOT 2012 Standard Specifications for Construction as necessary to achieve the required typical cross sections. Excavated material, if suitable, may be used as embankment material as approved by the Engineer.

CONSTRUCTION METHOD

Complete this work according to applicable sections of the Standard Specifications for Construction. Station Grading includes, but is not limited to, the following work:

1. Strip and stockpile topsoil for use in turf establishment.
2. Furnish, place and compact additional material.
3. Clearing, including trees less than 8 inches in diameter.
4. Remove rocks or boulders less than 0.5 cubic yards in volume.
5. Remove and relocate mailbox posts and mailboxes.
6. Sawcut existing pavement.
7. Match drive and approach grades to new pavement grades.
8. Remove miscellaneous structures and materials.
9. Dispose of excess and unsuitable material according to Section 205.
10. Place embankment and reshape to proposed grades.
11. Excavate material to a depth necessary for construction.
12. Place embankment to a thickness necessary for construction.
13. Excavate for subbase material.

DETAILED SPECIFICATION
FOR
ITEM #230 – STATION GRADING
ITEM #231 – SIDEWALK RAMP GRADING

MEASUREMENT AND PAYMENT

The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Station Grading	Linear Foot
Sidewalk Ramp Grading	Each

Station Grading includes all labor, equipment and materials necessary to complete the work as described and will be measured by length in stations along the road centerline.

Sidewalk Ramp Grading will apply separately to each quadrant of an intersection where sidewalk is to be removed and/or graded for construction. The limits are specified on the plans or as directed by the Engineer.

DETAILED SPECIFICATION
FOR
ITEM #232 - SUBGRADE UNDERCUTTING TYPE II

DESCRIPTION

This work includes removal of unsuitable granular base, subbase, or clay material(s) to a depth of 4-inches, and installing 4-inches of MDOT Class II granular base material for sidewalk, sidewalk ramps, and drive approaches on a prepared subgrade in accordance with Sections 301, 302 and 307 of the 2012 edition of the MDOT Standard Specifications for Construction, except as specified herein.

MATERIAL

The materials used for this work shall be MDOT Class II granular base material meeting the requirements of the City of Ann Arbor Standard Specifications.

CONSTRUCTION METHOD

At any time after sidewalks, sidewalk ramps, and/or drives have been removed; the Engineer may inspect the grade to determine the need for, and the limits of, undercuts. After undercut areas are excavated to a depth of 4-inches, the areas shall be trimmed, shaped, evenly graded and recompacted to not less than 95% of the soils maximum unit weight as determined by the AASHTO T-180 test. The Contractor shall properly dispose of all excess materials.

The Contractor is solely responsible for the maintenance and protection of the grade. Further, any damage to the grade which, in the opinion of the Engineer, is caused as a result of the Contractor's operation(s), or his/her subcontractors' or suppliers' operation(s), shall be repaired by the Contractor at the Contractor's expense. This includes any additional earthwork and/or maintenance materials as directed by the Engineer, for the purposes of the Contractor's maintenance and protection of the grade. The Contractor shall maintain the base, subbase and subgrade in a smooth, well drained condition at all times.

Subgrade Undercutting shall be backfilled with 4-inches of MDOT Class II granular backfill. The backfill material shall be compacted to not less than 95% of its maximum unit weight as determined by the AASHTO T-180 test.

Granular backfill shall not be placed if, in the opinion of the Engineer, there are any indications that they may become frozen before the specified densities are obtained. Granular backfill shall not be placed on a frozen base, subbase or subgrade.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

MEASUREMENT AND PAYMENT

The completed work, including subgrade undercutting and placement of granular backfill will be paid for at the Contract Unit Prices for the following Contract (Pay) Items:

PAY ITEM	PAY UNIT
Subgrade Undercutting Type II	Square Foot

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

DETAILED SPECIFICATION
FOR
ITEM #233 –SAND SUBBASE COURSE, CLASS II – C.I.P.
ITEM #234 – 21AA LIMESTONE – C.I.P.

DESCRIPTION

This work shall consist of constructing an aggregate subbase or base course on an existing aggregate surface, or on a prepared subgrade in accordance with Sections 301, 302 and 307 of the 2012 edition of the MDOT Standard Specifications for Construction, except as specified herein.

MATERIAL

The materials used for this work shall be MDOT 21AA, and Class II granular material, as modified meeting the requirements of the City of Ann Arbor Standard Specifications.

CONSTRUCTION METHOD

Sand or aggregate courses shall not be placed if, in the opinion of the Engineer, there are any indications that they may become frozen before their specified densities are obtained.

Sand or aggregate courses shall not be placed on a frozen base, subbase or subgrade.

The Contractor shall not use rubber-tired equipment on the grade, when its use causes, or may cause, in the opinion of the Engineer, damage to the grade. The Contractor shall conduct his/her operation(s), and provide all necessary equipment, to insure the satisfactory completion of the work without damaging the grade. This includes the transporting, stockpiling, rehandling, and movement of materials over additional distances, in lieu of driving on an unprotected, or partially unprotected, grade.

The Contractor is solely responsible for the maintenance and protection of the grade. Further, any damage to the grade which, in the opinion of the Engineer, is caused as a result of the Contractor's operation(s), or his/her subcontractors' or suppliers' operation(s), shall be repaired by the Contractor at the Contractor's expense. This includes any additional earthwork and/or maintenance materials as directed by the Engineer, for the purposes of the Contractor's maintenance and protection of the grade.

The Contractor shall shape the base, subbase and subgrade to the elevations, crowns, and grades as specified on the Plans and as directed by the Engineer. This may include regrading the subbase to provide different crown grades than those existing prior to the construction.

The Contractor shall remove, add to, re-shape, re-grade, and re-compact the existing roadbed materials, and shall construct the roadway to the cross-section(s) as indicated on the Plans, as detailed in the Specifications, and as directed by the Engineer. The Contractor shall use blade graders, maintainers, vibratory rollers, and/or other equipment as necessary, and as directed by the Engineer, for this work. Use of each specific piece of equipment is subject to the approval of the Engineer.

The Contractor shall maintain the base, subbase and subgrade in a smooth, well drained condition at all times.

Sand and aggregate courses shall be placed in uniform layers such that when compacted, they have the thicknesses shown on the Plans, or as directed by the Engineer. The loose measure of any layer shall not be more than 9-inches or less than 4-inches.

Sand subbase shall be compacted to not less than 95% of their respective maximum unit weights, as determined by the AASHTO T-180 test.

Aggregate base courses shall be compacted to not less than 98% of their respective maximum unit weights, as determined by the AASHTO T-180 test.

DETAILED SPECIFICATION
FOR
ITEM #233 –SAND SUBBASE COURSE, CLASS II – C.I.P.
ITEM #234 – 21AA LIMESTONE – C.I.P.

All granular materials shall be deposited from trucks or through a spreader in a manner that will minimize segregation of material.

Manholes, valve boxes, inlet structures and curbs shall be protected from damage. Manholes & inlet structures shall be continuously cleaned of construction debris and properly covered at all times during the construction. Upon completion of each day's work, manholes, water valve boxes, inlets and catch basins shall be thoroughly cleaned of all extraneous material.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

MEASUREMENT AND PAYMENT

Where granular materials are used as base, as subbase, or as fill for excavations in Machine Grading areas, items of work "Aggregate Base Course, 21AA -C.I.P." and "Sand Subbase Course, CL II - C.I.P." shall be measured and paid accordingly.

Where granular materials are used as fill for undercuts at locations other than Machine Grading areas, item of work "21AA Limestone - C.I.P." shall be measured and paid accordingly.

The completed work as measured for these items of work will be paid for at the Contract Unit Prices for the following Contract (Pay) Items:

PAY ITEM	PAY UNIT
Sand Subbase Course, Class II - C.I.P.	Cubic Yard
21AA Limestone - C.I.P.	Cubic Yard

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

DETAILED SPECIFICATION
FOR
ITEM #242 – HMA APPROACH
ITEM #243 – HANDPATCHING

DESCRIPTION

This work shall consist of constructing HMA pavement in accordance with Division 5 and Section 904 of the 2012 edition of the MDOT Standard Specifications, current supplemental MDOT specifications, and the City of Ann Arbor Standard Specifications, except as modified herein, and as directed by the Engineer.

MATERIALS AND EQUIPMENT

General

The HMA mixtures to be used for this work shall be as follows:

WORK ITEM	MDOT HMA MIXTURE #
HMA Approach	LVSP (Superpave)
Handpatching	LVSP (Superpave)

Binders for LVSP Superpave mixes shall be PG 58-28, as directed by Engineer. These shall meet the requirements specified in Section 904 of the 2012 edition of the MDOT Standard Specifications, and any current supplemental MDOT specifications.

The Aggregate Wear Index (AWI) number is 220 for LVSP. This AWI number applies to all aggregates used in all top course mixtures. Blending aggregates to achieve this AWI requirement is permitted in accordance with current MDOT Standards, and Supplemental Specifications.

Reclaimed Asphalt Pavement (RAP) in HMA Mixtures

The use of Reclaimed Asphalt Pavement (RAP) in HMA mixtures shall be in accordance with Section 501.02.A.2 of the 2012 edition of the MDOT Standard Specifications, and the City of Ann Arbor Standard Specifications.

CONSTRUCTION METHODS

All concrete work shall be completed prior to placing HMA mixtures.

The Contractor shall have a 10-foot long straight-edge, backhoe, air-compressor and jackhammer available during all paving operations.

Prior to placing the bond coat, the Contractor shall remove all vegetation (within the area to be paved), shall thoroughly clean all joints & cracks in the existing pavement (and any gutter to be overlaid) with compressed air and/or vacuum-type street cleaning equipment to remove all dirt and debris to a depth of at least 1-inch, and shall thoroughly clean the entire surface to be paved, with a Vac-All or similar vacuum-type street cleaning equipment.

MDOT SS-1h bond coat shall be applied at a uniform rate of 0.10 gallons/square yard, on all exposed, existing HMA and concrete surfaces which will come in contact with the new HMA material. The Contractor shall take extra care to avoid covering surfaces which are not to be paved. If work after October 15, 2021 is allowed by the Engineer, the SS-1h bond coat shall not be diluted by more than 25%.

The Contractor shall place HMA wedges using the leveling or base mixture specified herein, as directed by the Engineer, prior to placing the top course. Such wedging shall be measured and paid for at the respective unit price of the appropriate HMA Pavement item.

Construction of butt joints, where directed by the Engineer, shall be measured and paid for as "HMA Surface Remove".

The Contractor shall schedule the paving operation to avoid longitudinal cold joints.

HMA Approach top and leveling courses shall be placed in a 2-inch lift.

Handpatching shall be placed in 0-inch to 4-inch lifts.

All specified HMA thickness dimensions are compacted-in-place.

The Contractor shall construct the pavement courses to provide the final cross-slopes (crowns) specified by the Engineer.

The Contractor shall construct feather joints, and shall feather the top course at structures, in drive approaches, and at intersection joints, as directed by the Engineer. Feather joints shall vary the thickness of the asphalt from 0.0-inches to the required full paving thickness (approximately 2 inches) over a 5-foot to 15-foot distance, or as directed by the Engineer. The Contractor shall rake all large aggregates out of the HMA mixture in feather joints, prior to compaction.

The Contractor shall provide a minimum of two rakers during the placement of all top courses. Further, the Contractor shall provide, when directed by the Engineer, a second "Break-Down" roller in order to achieve the specified asphalt densities.

The Contractor shall provide a minimum of 24-hour notice to the Engineer prior to paving, and shall obtain a "Permit To Pave" from the Engineer in advance of scheduling paving.

The Contractor and Engineer shall carefully observe the paving operation for signs of faulty mixtures. Points of weakness in the surface shall be removed or corrected by the Contractor, at his/her expense, prior to paving subsequent lifts of HMA material. Such corrective action may include the removal and replacement of thin or contaminated sections of pavement, including sections that are weak or unstable. Once the Contractor or his representative is notified by the Engineer that the material being placed is out of allowable tolerances, or there is a problem with the paving operation, the Contractor shall stop the paving operation at once, and shall not be permitted to continue placing HMA material until again authorized by the Engineer.

During the placement of all courses, the speed of the paving machine(s) shall not exceed 50-feet per minute.

The Contractor shall furnish and operate enough materials and equipment so as to keep the paving machine(s) moving continuously at all times. Failure to do so shall be cause for the suspension of the paving operation until the Contractor can demonstrate to the satisfaction of the Engineer, that sufficient resources have been dedicated to perform the work in accordance with the specifications.

Each layer of HMA mixture shall be compacted to between 92 to 96 percent (or as determined acceptable by the engineer) of the theoretical maximum density, as listed on the approved Job Mix Formula.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

MEASUREMENT AND PAYMENT

Measurement of this HMA paving item shall be by the ton, in place. Unused portions of material loads shall be returned to the plant and re-weighed, and the corrected weight slip shall be provided to the Engineer. All weight slips must include the type of mixture (codes are not acceptable), as well as vehicle number, gross weight, tare weight and net weight.

Corrective action shall be enforced as described in the “Acceptance of HMA Mixtures” Detailed Specification and will be based on the City's testing reports.

All costs for furnishing and operating vacuum-type street cleaning equipment, backhoes, jackhammers, and air compressors shall be included in the bid prices for these items of work or in the item of work “General Conditions, Max $____.”

The completed work as measured for these items of work will be paid for at the Contract Unit Prices for the following Contract (Pay) Items:

PAY ITEM	PAY UNIT
HMA Approach	Ton
Handpatching	Ton

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

DETAILED SPECIFICATION
FOR

ITEM #247 4-INCH SIDEWALK OR RAMP
ITEM #248 6-INCH DRIVE APPROACH, RAMP, OR SIDEWALK
ITEM #249 6-INCH DRIVE APPROACH, RAMP, OR SIDEWALK – HIGH EARLY
ITEM #250 8-INCH FIBERMESH REINFORCED CONCRETE
ITEM #251 8-INCH CONCRETE – HIGH EARLY

DESCRIPTION

This work shall consist of constructing concrete items including sidewalks and drive approaches, of regular and high-early concrete, in accordance with Sections 601, 602, 603, 801, 802, and 803 of the 2012 edition of the MDOT Standard Specifications for Construction, except as specified herein, as shown on the Plans, as shown in this Detailed Specification, and as directed by the Engineer.

MATERIALS

Concrete mixtures shall be as follows (or as directed by the Engineer), and concrete materials shall meet the requirements specified in the referenced sections of the MDOT Standard Specifications:

Concrete Item	Concrete Mixture	MDOT Section
4" or 6" or 8" Sidewalk/Ramp/Drive	P1, 6-sack	601
6" or 8" Sidewalk/Ramp/Drive - High-Early	P-NC, 7.0-sack	601

CONSTRUCTION METHODS

General
Sidewalk, sidewalk ramps, and drives shall be replaced within 24 hours of their removal.

The Contractor is responsible to construct all sidewalks, sidewalk ramps, and all other concrete items within ADAAG (Americans with Disabilities Act Accessibility Guidelines) compliance. All sidewalks and curb ramps must be constructed in accordance with MDOT Standard Detail R-28-J (or version in place at time of the bid letting). The Engineer shall approve of all proposed grades prior to any removals and/or placement of concrete.

The Contractor shall excavate, cut, remove stumps, remove brush, remove pavement, grade, and trim as needed and as directed, and shall compact existing base as needed to: construct new concrete items; to repair or replace existing concrete items; to relocate existing concrete items to their new specified/directed elevations/locations, including all necessary grading at elevation changes of sidewalks and ramps; and at locations where existing concrete items are to be removed and turf is to be established in its place.

The Contractor shall coordinate with the City Forester prior to the removal of any tree roots greater than 2 inches in diameter.

The Contractor is responsible for any damage to concrete items, including but not limited to vandalism; vehicular, pedestrian and/or miscellaneous structural damage; surface texture damage; and rain damage.

The Contractor shall maintain on-site at all times, a sufficient quantity of adequate materials to protect concrete items. The Engineer may suspend or defer concrete placement if rain protection is not available. The Contractor shall not be entitled to any additional compensation due to work suspension or deferral resulting from a lack of adequate rain protection.

DETAILED SPECIFICATION
FOR

ITEM #247 4-INCH SIDEWALK OR RAMP
ITEM #248 6-INCH DRIVE APPROACH, RAMP, OR SIDEWALK
ITEM #249 6-INCH DRIVE APPROACH, RAMP, OR SIDEWALK – HIGH EARLY
ITEM #250 8-INCH FIBERMESH REINFORCED CONCRETE
ITEM #251 8-INCH CONCRETE – HIGH EARLY

The subbase and adjacent concrete shall be sufficiently wet-down with water prior to placing concrete, to prevent water loss from the new concrete, and to form a better bond between old and new concrete. If a cold-joint becomes necessary, (the) existing concrete surface(s) shall be cleaned with compressed air to expose the aggregate in the concrete.

All concrete items shall be placed with the use for rigid forms, except along edges where the new concrete abuts an existing sidewalk or pavement. Any concrete placed without the use of forms shall be removed and replaced at the Contractor's expense. Where it is necessary to remove existing pavement to provide space for concrete formwork, a sufficient amount of the existing pavement shall be removed to allow for the use of a vibratory plate compactor in front of the curb.

Prior to compacting backfill in front of curb and gutter, the back of curb shall be backfilled with approved material and compacted by mechanical means to 95% of the material's maximum unit weight.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

All concrete items shall be constructed such that positive drainage is maintained. Any areas that exhibit ponding water shall removed and replaced to the extents necessary to correct the problem as directed by the Engineer, at the Contractor's sole expense.

Restoration

The Contractor shall restore all disturbed areas to better than or equal to their original condition within two calendar days from the date of concrete placement. This includes the placement of seed and topsoil in all turf restoration locations and at locations where concrete items are removed and turf is to be established, all in accordance with the Detailed Specification for "Topsoil and Seed Placement". **Restoration shall also include the replacement of any brickwork, decorative stone, or other adjacent materials.**

Restoration work associated with the items of work described in this Detailed Specification shall include the area between the back of the curb (or edge of pavement) to the edge of the sidewalk, as well as the area within 12 inches of the back of the sidewalk.

All restoration work and materials shall be in accordance with the City Standard Specifications.

Contraction Joints in Sidewalk
Contraction joints shall be placed at 5-foot intervals and may be tooled or sawed. The method of forming joints and spacing shall be approved by the Engineer prior to construction.

Expansion Joints in Sidewalks
¾-inch wide expansion joints shall be placed through concrete sidewalks in line with the extension of all property lines, at all expansion joints in the abutting curb, gutter, and combination curb and gutter, and as directed by the Engineer. Transverse expansion joints shall be placed through the sidewalks at uniform intervals of not more than 300-feet.

DETAILED SPECIFICATION
FOR

ITEM #247 4-INCH SIDEWALK OR RAMP
ITEM #248 6-INCH DRIVE APPROACH, RAMP, OR SIDEWALK
ITEM #249 6-INCH DRIVE APPROACH, RAMP, OR SIDEWALK – HIGH EARLY
ITEM #250 8-INCH FIBERMESH REINFORCED CONCRETE
ITEM #251 8-INCH CONCRETE – HIGH EARLY

½-inch wide expansion joints shall be placed between the sidewalk and back of abutting curb or gutter, at the juncture of two sidewalks, between the sidewalk and buildings and other rigid structures, and as directed by the Engineer.

MEASUREMENT AND PAYMENT

No additional compensation will be paid for the construction of concrete items adjacent to existing concrete curb, gutter, pavement, or any other pavement or surface feature(s).

Restoration work within the limits described above will not be paid for separately, but shall be included in the appropriate associated items of work.

Completed work as measured for these items of work will be paid for at Contract Unit Price for the following Contract (Pay) Items:

PAY ITEMS	PAY UNIT
4-Inch Sidewalk or Ramp	Square Foot
6-Inch Drive Approach, Ramp or Sidewalk	Square Foot
6-Inch Drive Approach, Ramp or Sidewalk - High Early	Square Foot
8-Inch Fibermesh Reinforced Concrete	Square Foot
8-Inch Concrete - High Early	Square Foot

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

DETAILED SPECIFICATION
FOR
ITEM #252 – DETECTABLE WARNING, CAST IN PLACE

DESCRIPTION

This work shall consist of furnishing and installing cast in place detectable warning units in compliance with the Americans with Disability Act (ADA). All work shall be in accordance with MDOT Standard Detail R-28-J (or version in place at time of the bid letting).

MATERIALS

The detectable warning tiles shall be colored as Federal Number 22144 (variously referred to as "Clay Red" or "Brick Red"). The detectable warning tiles shall meet the following material properties, dimensions, and tolerances using the most current test methods:

1. Water Absorption: Not to exceed 0.35% when tested in accordance with ASTM-D570

2. Slip Resistance: 0.80 minimum combined wet/dry static coefficient of friction on top domes and field area, when tested in accordance with ASTM C1028.

3. Compressive Strength: 18,000 psi minimum, when tested in accordance with ASTM D695.

4. Tensile Strength: 10,000 psi minimum, when tested in accordance with ASTM D638.

5. Flexural Strength: 24,000 psi minimum, when tested in accordance with ASTM D790.

6. Chemical Stain Resistance: No reaction to 1% hydrochloric acid, urine, chewing gum, soap solution, motor oil, bleach, calcium chloride, when tested in accordance with ASTM D543 or D1308.

7. Wear Depth: 300 minimum, when tested in accordance with ASTM C501.

8. Flame Spread: 25 maximum, when tested in accordance with ASTM E84.

9. Gardner Impact: 50 in.-lbs. minimum, when tested in accordance with Geometry "GE" of ASTM D5420.

10. Accelerated Weathering of Tile when tested by ASTM-G155 or ASTM G151 shall exhibit the following result-$\Delta E<6.0$ as well as no deterioration, fading or chalking of surface when exposed to 3000 hours minimum exposure.

11. Wheel Loading: The cast in place tile shall be mounted on a concrete platform with a ½" airspace at the underside of the tile top plate then subjected to the specified maximum load of 10,400 lbs., corresponding to an 8,000 lb individual wheel load and a 30% impact factor. The tile shall exhibit no visible damage at the maximum load of 10,400 lbs using AASHTO-HB17 single sheet HS20-44 loading "Standard Specifications for Highways and Bridges."

12. Salt and Spray Performance of Tile and Adhesive System when tested to ASTM-B117 not to show any deterioration or other defects after 100 hours of exposure

DETAILED SPECIFICATION
FOR
ITEM #252 – DETECTABLE WARNING, CAST IN PLACE

CONSTRUCTION METHODS

Installer's Qualifications: Engage an experienced Installer who has successfully completed tile installations similar in material, design, and extent to that indicated for this Project.

The contractor shall follow manufacturer specifications for installation, except where they conflict with MDOT Standard Detail R-28-J (or version in place at the time of bidding), or other project requirements.

MEASUREMENT AND PAYMENT

The completed work as measured for this item of work will be paid for at the Contract Unit Prices for the following Contract (Pay) Item:

PAY ITEM	PAY UNIT
Detectable Warning, Cast in Place	Square Foot

The unit price for this item of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

DETAILED SPECIFICATION
FOR
ITEM #253 - PAVT MRKG, OVLY COLD PLASTIC, 12 INCH, CROSSWALK

DESCRIPTION

This work consists of providing and placing permanent pavement markings in accordance with the Michigan Manual of Uniform Traffic Control Devices (MMTUTCD), lasted version published at time of advertisement. Provide pavement markings that conform to the Plans, the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, MDOT Pavement Marking Standard Plans, City of Ann Arbor Special Details, and as specified herein.

MATERIALS

Provide materials in accordance with section 811 and 920 of the MDOT 2012 Standard Specifications for Construction. Provide the Material Safety Data Sheets to the Engineer for required materials and supplies. Dispose of unused material and containers in accordance with the Federal Resource Conservation Recovery Act (RCRA) of 1976 as amended, and 1994 PA 451, Part 111 Hazardous Waste Management. Provide samples of permanent marking materials upon request.

CONSTRUCTION METHODS

The preparation and placement of permanent markings shall conform to section 811 of the MDOT 2012 Standard Specifications, the Plans, and as specified herein.

MEASUREMENT AND PAYMENT

Completed work, as described, will be measured and paid for at Contract Unit Prices for the following Contract (Pay) Items:

PAY ITEMS	PAY UNIT
Pavt Mrkg, Ovly Cold Plastic, 12 inch, Crosswalk	Foot

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the MDOT 2012 Standard Specifications for Construction and as modified by this Detailed Specification.

DETAILED SPECIFICATION
FOR
ITEM #264 PAVT MRKG COVER, TYPE R, BLACK
ITEM #266 PAVT MRKG, WET REFLECTIVE, TYPE R, TAPE, 4 INCH, YELLOW, TEMP
ITEM #267 PAVT MRKG, WET REFLECTIVE, TYPE R, TAPE, 6 INCH CROSSWALK
ITEM #269 – LIGHTED ARROW BOARD, FURNISH AND OPERATE
ITEM #270 – SIGN, PORTABLE CHANGEABLE MESSAGE, FURNISH AND OPERATE
ITEM #271 – PLASTIC DRUM – LIGHTED, FURNISH & OPERATE
ITEM #272 – BARRICADE TYPE III – LIGHTED, FURNISH AND OPERATE
ITEM #273 – TEMPORARY SIGN - TYPE B, FURNISH AND OPERATE
ITEM #274 – PEDESTRIAN TYPE II BARRICADE, TEMP
ITEM #275 – PEDESTRIAN CHANNELIZER, TEMP
ITEM #276 – PEDESTRIAN CHANNELIZER BARRIER, TEMP
ITEM #277 – SIGN COVER

DESCRIPTION

This work shall consist of protecting and maintaining vehicular and pedestrian traffic, in accordance with Sections 812 and 922 of the 2012 MDOT Standard Specifications for Construction; Part 6 of the Michigan Manual of Uniform Traffic Control Devices, Latest Revised Edition (MMUTCD); and the City Standard Specifications, except as modified herein.

MATERIALS, EQUIPMENT, AND CONSTRUCTION METHODS

General

Materials and equipment shall meet the requirements specified in the above-designated sections of the MDOT Standard Specifications.

The Contractor shall maintain traffic such that no vehicle shall be required to drive into active work areas. Patch areas which extend more than halfway across the roadway shall always be removed and replaced to provide a minimum of half the pavement width for maintaining traffic.

The Contractor shall maintain pedestrian traffic at all times. For maintaining normal pedestrian traffic while performing sidewalk and driveway repair, **Pedestrian Type II Barricade, Temp** shall be placed by the Contractor, as directed by the Engineer. "Sidewalk Closed" and/or "Cross Here" signs shall be placed, by the Contractor, when directed by the Engineer.

All temporary traffic/pedestrian control devices furnished by the Contractor shall remain the property of the Contractor, EXCEPT Temporary Curb for Bump-out. The City shall not be responsible for stolen or damaged signs, barricades, barricade lights or other traffic maintenance items. The Contractor shall replace missing traffic control devices immediately, at no additional cost to the City.

All existing signs, and signs erected by the City of Ann Arbor on this project shall be preserved, protected, and maintained by the Contractor. Existing City owned signs which are damaged by the Contractor during the work will be repaired by the City at the Contractor's expense.

Parking violation citations issued to the Contractor, subcontractor and material suppliers, including their employees, shall be enforced under appropriate City Code.

The Contractor shall replace missing or damaged traffic control devices, as directed by the Engineer. When traffic control devices have been damaged by, or due to, the negligence of the Contractor, his subcontractors

or material suppliers, the traffic control devices shall be replaced at the Contractor's expense.

The Contractor shall furnish and operate these items as directed by the Engineer.

Installation shall follow the manufacturer's installation requirements.

Plastic Drum –Lighted, Furnish and Operate; Barricade Type III – Lighted, Furnish and Operate; Temporary Sign, Type B, Furnish and Operate; Pedestrian Type II Barricade, Temp; Pedestrian Channelizer; Pedestrian Channelizer Barrier

The Contractor shall furnish and operate these items as directed by the Engineer.

Type II pedestrian barricades and type III barricades shall have standard orange-and-white stripes on both sides of the barricade.

Enough signs shall be provided by the Contractor to insure the safety of the workers and the general public in accordance with the current MMUTCD.

"Construction Ahead" warning signs shall be placed, as indicated on the Plans, or as directed by the Engineer, prior to the start of work, regardless of the nature, magnitude or duration of the work.

MEASUREMENT AND PAYMENT

General

All temporary traffic/pedestrian control devices furnished by the Contractor shall remain the property of the Contractor. The City shall not be responsible for stolen or damaged signs, barricades, barricade lights or other traffic maintenance items. The Contractor shall replace missing traffic control devices immediately, at no additional cost to the City.

Costs for transporting barricades and other traffic control devices shall be included in the bid prices for the individual items of work.

Pavt Mrkg Cover, Type R, Black

Payment for Type R Black Pavt Mrkg shall be for the maximum quantity used on each street.

Pavt Mrkg, Type R, Tape

Payment for Type R Tape shall be for the maximum quantity used on each street.

Plastic Drum – Lighted, Furnish and Operate

There will be a one-time payment for each street for the maximum number of lighted drums in-place (operated) at any one time, as directed by the Engineer.

Barricade Type III – Lighted, Furnish and Operate

Payment for furnishing and operating lighted type III barricades shall be for the maximum quantity in-place at any one time during the work of the entire project (all streets).

Temporary Sign - Type B, Furnish and Operate

Payment for Type B signs shall be for the maximum quantity used on each street.

Pedestrian Type II Barricade, Temp

Payment for furnishing and operating type II pedestrian barricades shall be for the maximum quantity in-

place at any one time during the work of the entire project (all streets).

Pedestrian Channelizer, Temp
Payment for furnishing and operating pedestrian channelizers shall be for the maximum quantity in-place at any one time during the work of the entire project (all streets).

Pedestrian Channelizer Barrier, Temp
Payment for furnishing and operating pedestrian channelizer barriers shall be for the maximum quantity in-place at any one time during the work of the entire project (all streets).

Lighted Arrow Board, Furnish and Operate
Measurement for furnishing and operating lighted arrow board will be for the maximum quantity in-place at any one time during the work of the entire project (all streets).

Sign, Portable Changeable Message, Furnish and Operate
Measurement for furnishing and operating portable changeable message signs will be for the maximum quantity in-place at any one time during the work of the entire project (all streets).

Sign Cover
There will be a one-time payment for each street for the maximum number of sign covers in-place (operated) at any one time, as directed by the Engineer.

The completed work as measured for these items of work will be paid for at the Contract Unit Price for the following Contract (Pay) Items:

PAY ITEM	PAY UNIT
Pavt Mrkg Cover, Type R, Black	Foot
Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, White, Temp	Foot
Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp	Foot
Pavt Mrkg, Wet Reflective, Type R, Tape, 6 inch Crosswalk	Foot
Pavt Mrkg, Wet Reflective, Type R, Tape, 24 inch Stop Bar	Foot
Lighted Arrow Board	Each
Sign, Portable Changeable Message, Furnish and Operate	Each
Plastic Drum - Lighted - Furnish& Operate	Each
Barricade Type III - Lighted - Furnish and Operate	Each
Temporary Sign, Type B - Furnish and Operate	Square Foot
Channelizing Device, 42 inch, Furnish and Operate	Each
Pedestrian Type II Barricade, Temp	Each
Pedestrian Channelizer, Temp	Each
Pedestrian Channelizer Barrier, Temp	Each
Sign Cover	Each

DETAILED SPECIFICATION
FOR
ITEM #278 - TEMPORARY PEDESTRIAN RAMP
ITEM #279 – TEMPORARY PEDESTRIAN MAT

DESCRIPTION

This work consists of furnishing, installing, maintaining, relocating, and removing a temporary pedestrian ramp as identified in the proposal or on the plans. Use temporary pedestrian ramps to facilitate pedestrian travel on accessible facilities over curbs or other uneven terrain features with a vertical difference of 1/2 inch or greater. Damaged pedestrian ramps will be replaced as directed by the Engineer.

MATERIALS

A. Temporary Pedestrian Ramp

Provide materials to construct a temporary pedestrian ramp in accordance with the *Americans with Disabilities Act (ADA)*, the standard specifications, and the following:

1. Ensure the material used to construct the temporary pedestrian ramp is firm, stable, skid resistant, and forms a continuous hard surface. Ensure the surface does not warp, buckle or otherwise become uneven, and materials support the weight of pedestrians as well as motorized scooters and wheelchairs. Suitable materials to construct the surface of the ramp include asphalt materials, Oriented Strand Board (OSB) or plywood, dimensional lumber, certain reclaimed or other materials as approved by the Engineer. Compacted soils, aggregate and sand are prohibited.

2. Provide a handrail on both sides of the ramp if the ramp is not exposed to vehicle traffic and has a total rise greater than 6 inches, and a length greater than 72 inches. Ensure the handrail is between 1.25 and 1.5 inches wide and configured to be a "graspable" cross-section. See construction subsection 2.A for additional details. When the ramp is exposed to traffic, in lieu of handrails, use a protective edge 2.5 inches minimum height above the ramp surface or 1:10 flare on both sides of the ramp.

3. Ensure the surface of the ramp is free draining; in addition provide features that allow drainage to move past the ramp installation (i.e. along the gutter pan underneath the ramp if the ramp is installed on a curb).

4. Provide materials to construct detectable edging along open sides of the ramp if required.

5. If asphalt materials are not used to construct the surface of the ramp, provide an antiskid coating or surface treatment approved by the Engineer.

B. Temporary Pedestrian Mat

Provide materials for a temporary pedestrian mat in accordance with the *Americans with Disabilities Act (ADA)*, the standard specifications, and the following:

1. Ensure the material used for the temporary pedestrian mat is firm, stable, skid resistant, and forms a continuous hard surface. Ensure the surface does not warp, buckle or otherwise become uneven, and materials support the weight of pedestrians as well as motorized scooters and wheelchairs. Suitable materials will be determined by the Engineer after shop drawings or products information is provided.

2. Mats shall be at least 60 inches wide and not have traversable edges more than ½ inch high.

3. Ensure the surface of the mat is free draining.

CONSTRUCTION METHOD

Construct the temporary pedestrian ramp in accordance with the manufacturer's recommendations (if applicable), *ADA*, the plans, and the following:

1. Ensure the useable surface of the ramp is 48 inches wide and does not deflect due to pedestrian traffic. Ensure an anti-skid surface treatment is applied to the useable area of the ramp if it is not made from asphalt materials. The maximum cross slope of the ramp is 2 percent. Ensure both ends of the ramp smoothly transitions to the adjacent surface, with 1/4 inch or less vertical difference.

Construct the ramp to maintain a longitudinal slope from 1:10 to 1:12 where possible. Otherwise, a longitudinal slope from 1:8 to 1:10 may be used for a maximum rise of 3 inches. Temporary pedestrian ramps with longitudinal slopes greater than 1:8 are prohibited.

A. Provide a handrail on both sides of the ramp if required as stated herein. Ensure the top of the handrail is between 34 and 38 inches above the surface of the ramp. Ensure a minimum width of 36 inches is maintained between the handrails, with a minimum clearance of 1.5 inches behind and 18 inches above.

Construct the handrail such that the bending stress applied by a bending moment created by a 250 pound force is less than the allowable stress for the materials and the construction of the handrail. Construct the handrail to withstand the shear stress induced by a 250 pound force. Ensure all fasteners, mounting devices and support structures are also able to withstand shear stress induced by a 250 pound force.

2. Construct a detectable edging anytime a handrail is required, and anytime the path changes direction. This includes a turn onto the ramp from the path. Detectable edging must begin a maximum of 2.5 inches above the ramp surface, and extend at least 6 inches above the ramp surface.

3. Ensure a clear space (minimum 48 inches by 48 inches) is provided above and below the ramp.

4. Avoid locating ramps in areas of drainage collection, ponding or running water, which can produce slippery or unsafe conditions. If the ramp is located over a gutter pan or other drainage structure, provide features to facilitate water movement around or under the ramp as approved by the Engineer.

5. Ensure all debris and construction material is cleared from the surface of the ramp throughout its use. Ensure snow and ice is removed; the use of an approved de-icing agent may be required. Repair or replace the ramp if it becomes uneven, unstable, or displaces due to weather events, construction activities, or other causes as directed by the Engineer.

MEASUREMENT AND PAYMENT

The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Temporary Pedestrian Ramp	Each
Temporary Pedestrian Mat	Each

Temporary Pedestrian Ramp and Temporary Pedestrian Mat includes all labor, equipment, and materials to furnish, install and remove a temporary pedestrian ramp at the locations shown on the plans, as well as all costs for maintaining, clearing debris, deicing, reconfiguring, and relocating the temporary pedestrian ramps and mats throughout the life of the contract.

DETAILED SPECIFICATION
FOR
ITEM #280 – AUDIBLE MESSAGE DEVICE

DESCRIPTION

This work shall consist of furnishing and installing temporary audible message devices to be used in Temporary Pedestrian Alternate Routes (TPAR) for pedestrians with visual impairments in compliance with the latest version of the Michigan Manual on Uniform Traffic Control Devices (MMUTCD) and the Public Right-of-Way Accessibility Guidelines (PROWAG), published in November 2005. All work shall be in accordance with the Special Provision for "Maintenance of Traffic" and as indicated on the plans, and as modified herein.

CATEGORIES

Audible message devices (AMDs) will have two categories:

1. AMDs without a pushbutton
    - These devices will operate based on a proximity sensor; the audible message content will be given when the sensor is activated.
2. AMDs with a pushbutton and locator tone
    - These devices will have the capability of utilizing a locator tone for pedestrians with visual impairments to locate the pushbutton on the AMD. The pushbutton on the AMD will activate the audible message content. The AMD may continuously sound the locator tone, or the locator tone may be activated with a proximity sensor.

CRITERIA

Following are the necessary criteria for all types of AMDs to be on the APL:

- Compliant with the latest version of the Michigan Manual on Uniform Traffic Control Devices (MMUTCD) and the Public Right-of-Way Accessibility Guidelines (PROWAG), published in November 2005.
- Be weatherproof and fully operational between -20° F to +130° F and in a humidity range of 0-100% non-condensing.
- Be able to be battery operated.
- Proximity sensor shall be able to detect pedestrians from 15 feet away.
- The ability to verbalize a custom voice messages for a minimum of 60 seconds.
- Volume requirements
    - Volume measured at 3 feet from the AMD shall be 2 dB minimum and 5 dB maximum above ambient noise level in standard operations and shall be responsive to ambient noise level changes.
    - The ability to maximize volume at 100 dBA

Following are the additional necessary criteria for AMDs with pushbuttons and locator tones:

- The device shall be designed such that the pushbutton is within the Reach Ranges identified in PROWAG when the device is placed on level ground. In addition, the pushbutton shall be placed approximately at 42 inches (but no more than 48 inches) from the bottom of the device.
- Pushbuttons shall incorporate a locator tone at the pushbutton. Pushbutton locator tone volume measured at 3.0 feet from the pushbutton shall be 2 dB minimum and 5 dB maximum above ambient noise level and shall be responsive to ambient noise level changes. The duration of the

locator tone shall be 0.15 seconds maximum and shall repeat at intervals of one second. The locator tone may be activated by a proximity sensor.

MATERIALS

Approved Temporary Audible Message Devices are as follows:

- Model 400ADA audible Device, manufactured by Empco-Lite, 1675 Shanahan Drive, South Elgin, IL USA 60177.
  - The 400ADA is an audible information device that can be mounted on various safety devices like the ADA Wall, 42" Cones, and the Safety Wall. Or it can just be a stand-alone device.
  - Easily program your message with built-in microphone and speaker.
  - Record up to a 60 second message.
  - Customize message for each location. See "Messages for Audible Information Devices" for message guidelines and helpful information.
  - When routes are blocked (especially mid-block closings), there are alternate crossings or alternate routes that are not continuous, these units provide positive guidance for the visually impaired by providing needed audible information. See 2009 MUTCD Section 6D.01 E, Section 6D.02, Section 6F.14, Section 6F.16 and notes on Figure 6H-28 and Figure 6H-29 (see PDF).
  - Unit can be mounted on a standard barricade light housing utilizing two 6V spring terminal batteries or can be a self contained unit operating on four D-Cell batteries.
  - Unit is triggered by motion detector when pedestrians get within 15 feet of the unit.

- SpeakMaster 500, manufactured by MDI Worldwide, 38271 W Twelve Mile Road, Farmington Hills, MI 48331.
  - The ADA SpeakMaster™ is an audible warning device that alerts pedestrians of a sidewalk closure ahead and provides navigation instructions Rugged design, simple to install and programmable through Bluetooth connectivity, the 9” DFB sign promotes safety where ever they’re installed.
  - The all aluminum ADA SpeakMaster stands 5.5 feet high, is completely weather resistant, and ADA compliant. The two-sided frame at the top has snap-open side rails to easily change custom signs. The frame can rotate 360° to accommodate the different requirements of multiple urban areas. The unit is powered by an extended-life battery stored in a key-locked compartment in the base, and the base can be weighted for added stability and security. The electronics are housed in the upright, also in a key-locked compartment, and messages can be programmed on site, by cell phone, or computer. The base tilts and rolls on hidden wheels.
  - The ADA SpeakMaster is positioned approximately 100 feet before the actual sidewalk closure. As the pedestrian approaches, he hears a unique locator tone, which the visually impaired have been taught to recognize. The tone is either on continuously or is activated by an optional motion sensor and indicates that there is more information. The pedestrian locates the push button and activates the voice module to hear navigation instructions. He can then safely pass through the temporary pedestrian accessible route.

CONSTRUCTION METHOD

Installer’s Qualifications: Engage an experienced Installer who has successfully completed AMD installations similar in material, design, and extent to that indicated for this Project.

DETAILED SPECIFICATION
FOR
ITEM #280 – AUDIBLE MESSAGE DEVICE

The contractor shall follow manufacturer specifications for installation, except where they conflict with MMUTCD or other project requirements.

MEASUREMENT AND PAYMENT

The completed work as measured for the following pay items will be paid for at the contract unit prices for the following contract items (pay items):

PAY ITEM	PAY UNIT
Audible Message Device	Each

The unit prices for this item of work shall include all labor, material, and equipment costs required to complete the work.

DETAILED SPECIFICATION
FOR
#290 – UNDERGROUND SPRINKLING SYSTEMS, RESTORE

DESCRIPTION

Restore existing privately owned underground sprinkling systems within the project site as described herein. This work shall be paid with an allowance for the actual work required to restore and modify existing privately owned underground sprinkling systems. The Contractor shall take care to avoid disturbance of existing underground sprinkling systems within the project site. These typically will be encountered in the parkway adjacent to the roadway.

MATERIALS

Materials used to restore or modify existing underground sprinkling systems shall be of the same brand, model and specifications as the removed or damaged portion(s) of the sprinkling system and shall be compatible with the rest of the system.

CONSTRUCTION METHOD

The Contractor shall take precautions to prevent or minimize damage and disruption to private lawn sprinkling systems, including, but not limited to, completing visual inspections of the project site to determine areas in which lawn sprinkling equipment exists. This work of inspection shall be considered incidental to the disturbing work in the project area.

The Contractor shall repair or replace all lawn sprinkling systems disturbed by his/her operations and shall contact and coordinate any necessary work with the appropriate owners of such sprinkling systems. The Contractor shall obtain written permission from property owners prior to completing any work outside the R.O.W. on private property and shall provide copies of these documents to the Engineer for the project file.

The Contractor shall employ an underground sprinkling specialist to make necessary repairs or modifications to the affected underground sprinkling systems. During construction activities, the disturbed portions of the system shall be isolated and/or removed in such a way that the undisturbed portions of the system remain operational until the entire system is completely restored. The existing underground sprinkling systems shall be restored or modified so that spray from the sprinkler heads does not spray over sidewalks or into driving lanes of the road.

MEASUREMENT AND PAYMENT

The completed work shall be paid for at the contract unit price for the following contract item (pay item) which shall include all materials, equipment and labor required to complete this work.

Pay Item	**Pay Unit**
Underground Sprinkling Systems, Restore	Dollar

Payment for Underground Sprinkling Systems, Restore will be paid for as an allowance after all disturbed sprinkling systems have been repaired and/or replaced, whichever occurs later. The Contractor shall supply the Engineer with actual invoices from the underground sprinkling specialist for this work effort and may add up to 5% markup.

The Contractor waives all claim for damages or delay which he/she may suffer by reason of the presence of lawn sprinkling equipment within the project site and understands that no extra compensation will be paid to him/her due to any lawn sprinkling equipment encountered.

DETAILED SPECIFICATION
FOR
ITEM #291 – ADJUST STRUCTURE COVER
ITEM #292 – ADJUST MONUMENT BOX, VALVE BOX, OR GAS BOX
ITEM #293 – STRUCTURE COVERS

DESCRIPTION

This work shall consist of adjusting, replacing, and pointing structures, handholes, valve wells or boxes, and monument boxes of concrete and concrete block masonry; the replacing, salvaging and transporting of new and existing metal covers, and/or castings; including all excavation, backfilling, patching and the removal and proper disposal off-site of all excavated material and debris, all in accordance with Division 4 of the 2012 edition of the MDOT Standard Specifications for Construction, and the City Standard Specifications, except as specified herein, and except as directed by the Engineer.

MATERIALS

Materials shall meet the requirements of sections 403 and 601 of the 2012 edition of the MDOT Standard Specifications, except that concrete shall be MDOT P-NC per Section 601 of the 2012 MDOT Standard Specifications.

CONSTRUCTION METHODS

General

Materials shall be stored by the Contractor at locations arranged by the Contractor, subject to the approval of the Engineer. The Contractor shall not store materials or equipment, including metal castings and steel plates, on any lawn area.

Hidden, or unknown utility structures may be encountered during the work. It is the Contractor's responsibility to inform the respective utility owner(s) of such findings. In such instances, the City may direct the Contractor to adjust the structure(s) to grade. This work will be paid as “Adjust Structure Cover”.

The pointing of structures is included in all adjustments.

Adjust Structure Cover

This item includes the final adjustment of castings of any type (including drop inlets) to their respective finished elevations, up or down. All materials required to make the adjustments shall be included in this item of work.

All underground structure covers shall be adjusted such that their finished surface elevation is within ¼-inch of the finished surface sections, grades, slopes, and elevations, as shown on the Plans, and as directed by the Engineer. The work shall be verified by the use of a 10-foot straight-edge placed parallel with the pavement centerline. Structures not meeting the ¼-inch tolerance shall be readjusted and finish patched, as directed by the Engineer, at the Contractor's expense.

The Contractor is responsible to coordinate and arrange for the adjustment of all non-City utility manholes and valves (Edison, Gas, Cable, Ameritech, etc.) during this project. The Contractor will not be given any additional compensation for delays due to other utilities work. The work of coordinating with other utilities shall be paid for under the Contract Item “General Conditions.”
All structure covers, utility covers, valve boxes or monument boxes shall be backfilled with MDOT P-NC concrete from the depth of excavation necessary for adjustment, up to an elevation 2-inches below the top flange of the adjusted

casting. This work shall be included in the respective items of work, and will not be paid for separately.

Adjust Monument Box or Valve Box, and Traffic Signal Handhole

This item includes the final adjustment of existing or new covers/castings and traffic signal handholes (traffic signal handhole adjustments will be paid for as "Adjust Structure Cover") up or down, to their finished elevations. This also includes the replacement of the top half of the water boxes and monument boxes (furnished by the City) where required, and shall be included in this item of work.

Castings and covers for monument and water-valve boxes will be provided by the City. The Contractor shall transport these new castings and covers to the site from the City Utilities Department yard at 4251 Stone School Road (Wheeler Center).

Structure Covers

This item shall consist of replacing covers and/or castings for manhole structures and inlet structures as directed by the Engineer. All covers and/or castings shall conform to the model(s) specified in appendix.

The Contractor shall deliver all salvaged covers and castings to the Wheeler Center within two days of their removal.

MEASUREMENT AND PAYMENT

Payment for transporting new and salvaged castings and covers to and from the Wheeler Center is included in the appropriate items of work.

Furnishing and placing concrete as backfill for these items will not be paid separately, but shall be included in the bid prices for these items of work.

Completed work as measured for these items of work will be paid for at Contract Unit Price for the following Contract (Pay) Items:

PAY ITEM	PAY UNIT
Adjust Structure Cover	Each
Adjust Monument Box, Valve Box, or Gas Box	Each
Structure Cover	Pounds

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

DETAILED SPECIFICATION
FOR
ITEM #702 – EROSION CONTROL, INLET PROTECTION

DESCRIPTION

The Contractor shall furnish, place, maintain, and remove soil erosion and sedimentation control measures, including but not limited to, silt fence and fabric filter protection at all drainage structures, all in accordance with all applicable City (and other governmental agencies) codes and standards, as directed by the Engineer, as detailed in the Standard Specifications, and as shown on the Plans.

This work consists of installing and maintaining inlet filters and silt fence in accordance with Section 208 of the 2012 Michigan Department of Transportation Standard Specifications for Construction and as shown on the plans. Filters in existing and proposed inlets, as well as silt fence downstream of construction area, shall be installed in order to minimize the erosion of soil and the sedimentation of water courses. The related work includes the installation, maintenance, and removal of the filters and fence, cleaning as required during the performance of the project work, removing and disposing of accumulated sediment, and replacement of filters if required by the Engineer so as to provide a properly working inlet filter and a well-drained site.

MATERIALS

The inlet protection filters shall be in accordance with the REGULAR FLOW SILTSACK® manufactured by ACF Environmental (800) 448-3636; FLEXSTORM® Style FX manufactured by Advanced Drainage Systems, Inc. (800) 821-6710; CATCH-ALL® manufactured by Price & Company (866) 960-4300, SLOT GUARD® manufactured by Ertec Environmental Systems (866) 521-0724, or Engineer approved equal.

The Contractor shall submit product data sheets and a sample of the filter material for inlet filters and silt fence for Engineer approval prior to ordering materials.

METHODS OF CONSTRUCTION

The Contractor shall install, maintain, clean, and re-install and/or replace inlet filters and silt fence in accordance with the manufacturer's specifications and as directed by the Engineer. The Contractor shall dispose of debris off-site.

MEASUREMENT AND PAYMENT

Soil erosion and sedimentation control items shall be field measured and paid for at the Contract Unit Prices for their respective Contract (Pay) Items as follows:

PAY ITEM	PAY UNIT
Erosion Control, Inlet Protection	Each

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.

CITY OF ANN ARBOR
ENGINEERING

NOTES:

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE 1994 EDITION OF THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS, ITS DETAILS, WHICH ARE INCLUDED BY REFERENCE, AND THIS PROJECT'S CONTRACT DOCUMENTS. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT.

SIDEWALK GAP ELIMINATION - 2021

BID No. 4685, FILE No. 2021007

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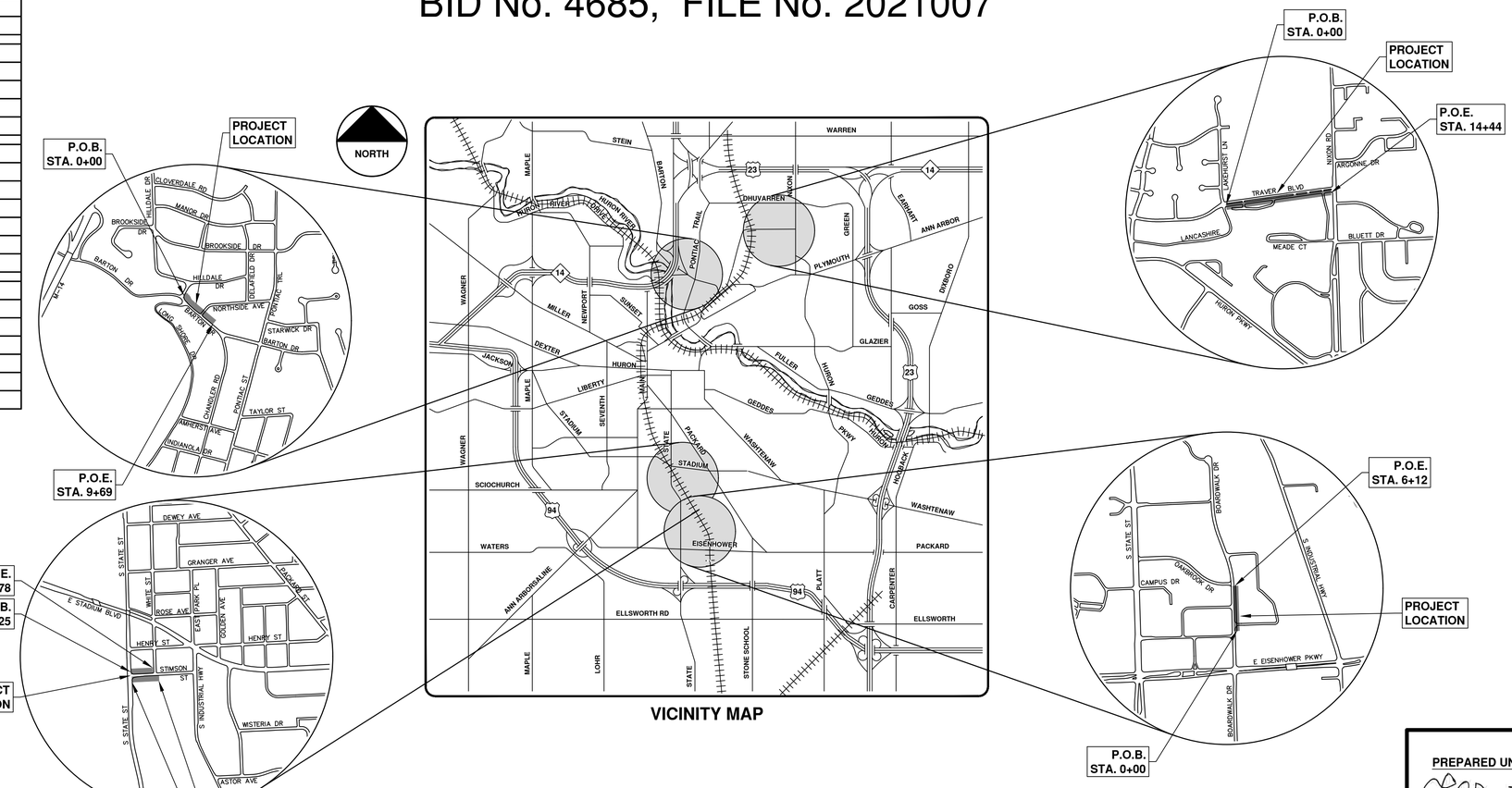

PREPARED UNDER THE SUPERVISION OF

THERESA BRIDGES, P.E. - MI LICENSE No. 6201052180
PROJECT MANAGER

6 / 3 /2021
DATE

STATE OF MICHIGAN
THERESA CISCO BRIDGES
ENGINEER
No. 6201052180
LICENSED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	ISSUED FOR BID	6-3-2021	CC,DF,KB	TB
01	ADDENDUM #1	6-15-2021	DF	TB

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
(734) 794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021007-1

SHEET No. 1 OF 29

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CONSTRUCTION NOTES:

1. DRIVEWAYS AND ENTRANCES TO BUILDINGS, REAL PROPERTY, AND THE LIKE SHALL NOT BE BLOCKED EXCEPT FOR SHORT DURATIONS AND ONLY WHEN APPROVED BY THE ENGINEER. VEHICULAR AND PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL NECESSARY DRIVEWAY CLOSURES WITH THE PROPERTY OWNER(S) AND RESIDENT(S) IN THE AREAS OF CONSTRUCTION.

2. THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND SERVICE LEADS ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

3. LOCATION OF UTILITIES AS DEPICTED ON THE PLANS IS APPROXIMATE AND SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXCAVATE AHEAD AND ADJUST DEPTH OF CONFLICT UTILITIES ACCORDINGLY. ANY DAMAGE TO UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY TO AVOID AND/OR REPAIR AS NECESSARY.

4. DURING NON-WORKING HOURS NO TRENCH SHALL REMAIN OPEN UNLESS APPROVED BY THE ENGINEER; ANY OPEN TRENCH SHALL BE PROPERLY SECURED WITH PROTECTIVE FENCING. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK "GENERAL CONDITIONS".

5. THE LOCATION OF MATERIAL STOCK PILES AND ON-SITE STAGING AREAS SHALL BE APPROVED BY THE ENGINEER. ALL MATERIAL STOCKPILES SHALL BE MAINTAINED SUCH THAT DRAINAGE AND SIGHT DISTANCES ARE NOT ADVERSELY IMPACTED. SOIL EROSION REQUIREMENTS SHALL APPLY TO ALL MATERIAL STOCKPILES.

6. ALL EXCAVATION REQUIRED FOR PROJECT GRADING WITHIN THE PROJECT LIMITS, INCLUDING PROPOSED PAVEMENT, SIDEWALK, AND SIDEWALK RAMPS SHALL BE INCLUDED IN "STATION GRADING,_____."

7. EXCAVATON AND BACKFILL BEHIND CURB AND GUTTER SHALL BE INCLUDED IN "STATION GRADING, _____." ALL BACKFILL UNDER PROPOSED CONCRETE PAVEMENTS SUCH AS DRIVE APPROACHES, RAMPS, SIDEWALK, ETC., SHALL BE MDOT CLASS II GRANULAR MATERIAL, COMPACTED TO 95% OF ITS MAX. DRY DENSITY AND WILL BE PAID FOR AS "SAND SUBBASE COURSE, CLASS II, C.I.P." BACKFILL FOR OTHER AREAS MUST BE APPROVED BY THE ENGINEER AND COMPACTED TO 95% OF ITS MAX. DRY DENSITY. NO PAYMENT WILL BE MADE FOR SUB-BASE OR AGGREGATE BASE THAT EXTENDS BEYOND 12" BEHIND THE BACK OF CURB OR PROPOSED SIDEWALK EDGE. REFERENCE THE TYPICAL CROSS SECTIONS.

8. ALL CURB, SIDEWALK, AND DRIVEWAY APPROACH REMOVALS SHALL BE APPROVED BY ENGINEER BEFORE THE WORK IS PERFORMED. ALL CONCRETE AND BITUMINOUS MATERIALS SHALL BE SAW-CUT FULL-DEPTH AT THEIR REMOVAL LIMITS PRIOR TO REMOVAL. SAW-CUTTING WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE "REMOVAL" ITEMS OF WORK.

9. PLACE 4" (MINIMUM) OR 6" (MINIMUM) THICKNESS CLASS II GRANULAR MATERIAL COMPACTED TO 95% OF ITS MAX. DRY DENSITY UNDER CONCRETE SIDEWALK AS SHOWN ON THE DETAILS. THIS WORK SHALL BE INCLUDED IN THE CONTRACT ITEMS "SAND SUBBASE COURSE, CLASS II, C.I.P."

10. A UNIFORM COAT(S) OF CURING COMPOUND SHALL BE APPLIED TO FRESHLY PLACED CONCRETE ACCORDING TO THE STANDARD SPECIFICATIONS AND DETAILED SPECIFICATIONS REGARDLESS OF THE DIFFICULTY INVOLVED. THE CONTRACTOR SHALL TAKE CARE TO PREVENT OVERSPRAY WHEN APPLYING CURING COMPOUND. SEVERAL DIFFERENT METHODS MAY NEED TO BE DEVELOPED TO PROTECT VARIOUS SITUATIONS, BUT ALL METHODS USED TO PREVENT OVERSPRAY OF THE CURING COMPOUND SHALL BE COMPLETELY EFFECTIVE. METHODS USED SHALL BE APPROVED BY THE ENGINEER PRIOR TO USE, HOWEVER APPROVAL OF A METHOD DOES NOT GUARANTEE SUCCESS OR ACCEPTABILITY. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR COMPLYING WITH THESE REQUIREMENTS.

11. "NO PARKING" SIGNS SHALL BE INSTALLED BY THE CONTRACTOR AT LOCATIONS AS APPROVED OR DIRECTED BY THE ENGINEER. ALL SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILED SPECIFICATIONS.

12. POSTAL DELIVERY AND SOLID WASTE PICKUP SERVICE AS WELL AS EMERGENCY VEHICLE ASSESSIBILITY SHALL BE MAINTAINED AT ALL TIMES BY THE CONTRACTOR.

13. WHERE STREET CURBS ARE UNDERMINED DUE TO CONSTRUCTION ACTIVITIES, THEY SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUED MAINTENANCE OF SOIL EROSION CONTROL MEASURES WITHIN THE CONSTRUCTION AREA UNTIL THE FULL COMPLETION OF THE PROJECT. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK "GENERAL CONDITIONS".

15. ALL STRUCTURES SHALL RECEIVE NEW CASTINGS AS DIRECTED BY THE ENGINEER, AS SPECIFIED ON THE STANDARD CASTING SCHEDULE. THE EXISTING CASTINGS ARE THE PROPERTY OF THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL DELIVER TO CITY OF ANN ARBOR PUBLIC WORKS FACILITY AT THE W.R. WHEELER SERVICE CENTER LOCATED AT 4251 STONE SCHOOL ROAD.

16. EXISTING STREET NAME, GUIDE, AND REGULATORY SIGNS, AND MAILBOXES WHICH CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED PRIOR TO CONSTRUCTION, STORED IN A MANNER WHICH WILL PREVENT DAMAGE, AND RE-SET IN LOCATIONS AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN "STAION GRADING"

GENERAL

NOTIFY THE CITY OF ANN ARBOR SOIL EROSION CONTROL OFFICE 48 HOURS PRIOR TO BEGINNING WORK ON THE PROJECT. PHONE: 734-794-6265.

1. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE SOIL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER AT ALL TIMES DURING CONSTRUCTION. ANY MODIFICATIONS OR ADDITIONS TO THE SOIL EROSION CONTROL MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE AS DIRECTED AND APPROVED BY THE ENGINEER.

2. ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE CITY OF ANN ARBOR, CHAPTER 55 ANN ARBOR UNIFIED DEVELOPMENT CODE, CITY OF ANN ARBOR STANDARDS DIVISION VII, THE LAWS OF THE STATE OF MICHIGAN, AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

3. DAILY, OR AFTER ANY STORM EVENT, INSPECTIONS OF EROSION CONTROL MEASURES SHALL BE MADE BY THE CONTRACTOR. PERIODIC INSPECTIONS MAY BE MADE BY THE ENGINEER TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. ANY NECESSARY CORRECTIONS SHALL BE MADE WITHOUT DELAY, AND WITHOUT ADDITIONAL COST TO THE CITY OF ANN ARBOR.

4. EROSION AND SEDIMENTATION FROM WORK ON THE SITE SHALL BE CONTAINED ON THE SITE AND NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS, ROADWAYS OR WATERWAYS.

5. ALL MUD/SOIL TRACKED ONTO ROADWAYS FROM THE SITE DUE TO CONSTRUCTION, SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR. IF SO ORDERED, THE CONTRACTOR SHALL PROVIDE AND OPERATE A VACUUM-TYPE STREET SWEEPER, AT NO ADDITIONAL COST TO THE CITY OF ANN ARBOR.

6. RESTORATION OF ALL DISTURBED AREAS, INCLUDING PLACEMENT OF TOPSOIL, SEED, FERTILIZER AND MULCH AND/OR SOD SHALL BE PERFORMED WITHIN FIVE (5) DAYS OF THE COMPLETION OF FINAL GRADE.

7. CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.

8. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.

9. PROPER DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE OF WATER TRUCKS AND/OR DUST PALLATIVE AS REQUIRED.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND REMOVAL OF SOME MEASURES UPON AUTHORIZED COMPLETION OF THE PROJECT. FINAL COMPLETION OF PROJECT WILL NOT BE AUTHORIZED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION IS COMPLETE AND ALL SOILS ARE STABILIZED.

11. THE CONTRACTOR SHALL NOT GRADE INTO ADJACENT PROPERTIES. SILT AND PROTECTIVE FENCE SHALL BE INSTALLED AND MAINTAINED TO PREVENT GRADING, EROSION AND SEDIMENTATION INTO THE ADJACENT PROPERTIES.

12. TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.

SEQUENCE OF EROSION CONTROL MEASURES:

1. THE CONTRACTOR IS TO SUBMIT TO THE ENGINEER, A SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION CONTROL MEASURES FOR REVIEW, COMMENT AND APPROVAL. THIS SCHEDULE IS TO INCLUDE INSPECTION AND REPAIR OF ALL TEMPORARY EROSION CONTROL MEASURES DAILY AND WITHIN 24 HOURS OF A STORM EVENT.

SAMPLE SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION MINIMUM REQUIREMENTS:

1.1. INSTALL SILT FENCE, TREE PROTECTION FENCING, MUD MATS, INLET FILTERS ON EXISTING DRAINAGE FEATURES, AND ALL OTHER TEMPORARY SOIL EROSION CONTROLS, PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.

1.2. STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE AS REQUIRED.

1.3. PERFORM STATION GRADING OPERATIONS AND CONSTRUCT PAVEMENTS (MAINLINE, SIDEWALKS, DRIVES, ETC.).

1.4. CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.

1.5. COMPLETE ALL FINE GRADING.

1.6. TEMPORARY SEED AND INSTALL EROSION CONTROL BLANKET IN ALL DISTURBED AREAS.

1.7. REFER TO PLANS FOR PERMANENT SITE STABILIZATION.

1.8. CLEAN OUT STORM SEWER SYSTEMS.

1.9. REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY OF ANN ARBOR'S SOIL EROSION AND SEDIMENTATION CONTROL OFFICIAL.

1.10. ALL TEMP. SOIL EROSION CONTROL MEASURES MUST BE REMOVED, WITH ENGINEERS APPROVAL, PRIOR TO FINAL INSPECTION

NOTE: THIS SEQUENCE IS FOR INFORMATION ONLY. IT IS INTENDED TO SHOW THE SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THEIR OWN DETAILED CONSTRUCTION SEQUENCE AND SCHEDULE TO THE ENGINEER FOR REVIEW, COMMENT, AND APPROVAL.

TEMPORARY SEEDING:

1. SEED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.

2. ANY DISTURBED AREA NOT PAVED, SEEDED, MULCHED, SODDED OR BUILT UPON BY NOVEMBER 15TH OR JUNE 30TH IS TO BE TEMPORARILY STABILIZED PER SPECIFICATIONS.

THE ESTIMATED COST OF SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, TOPSOIL, SEEDING, AND MULCH = $10,000

ON SITE SOILS PER THE USDA SOIL SURVEY OF WASHTENAW COUNTY, MICHIGAN:

BOARDWALK DR.

- MdA – MATHERTON SANDY LOAM, 0 TO 4 PERCENT SLOPES
- Sb – SEBEWA LOAM, DISINTEGRATION MORAINE, 0 TO 2 PERCENT SLOPES

STIMSON ST.

- MdA – MATHERTON SANDY LOAM, 0 TO 4 PERCENT SLOPES

BARTON DR..

- FoB – FOX SANDY LOAM, TILL PLAIN, 2 TO 6 PERCENT SLOPES
- FoC – FOX SANDY LOAM, HURON LOBE, 6 TO 12 PERCENT SLOPES
- WawabD – WAWASEE LOAM, 12 TO 18 PERCENT SLOPES

TRAVER BLVD.

- Br – BROOKSTON LOAM, 0 TO 2 PERCENT SLOPES
- Hn – HOUGHTON MUCK, DISINTEGRATION MORAINE, 0 TO 2 PERCENT SLOPES
- WawabB – WAWASEE LOAM, 2 TO 6 PERCENT SLOPES
- WawabC – WAWASEE LOAM, 6 TO 12 PERCENT SLOPES

ESTIMATE OF EXCAVATION AND FILL FROM EXISTING TO FINAL GRADE:

EXCAVATION = 414.39 CY, FILL = 87.61 CY

BARTON DRIVE BENCHMARKS

BM #	ELEV	DESCRIPTION
2	835.372	SET RR SPIKE IN S. SIDE OF U.P. ON N. SIDE OF BARTON IN FRONT OF HSE NO. 709.
3	830.154	SET RR SPIKE IN N.E. SIDE OF L.P. AT THE S.W. CORNER OF BARTON AND CHANDLER.
4	820.265	SET RR SPIKE IN S. SIDE OF U.P. AT THE N.W. CORNER OF BARTON AND NORTHSIDE.
5	815.495	SET RR SPIKE IN S. SIDE OF L.P. ON N. SIDE OF BARTON. ACROSS FROM LONG SHORE DR.
6	803.694	SET RR SPIKE IN S. SIDE OF U.P. ON N. SIDE OF BARTON. 2ND POLE WEST OF BREDE ST.

TRAVER BOULEVARD BENCHMARKS

BM #	ELEV	DESCRIPTION
2020	909.06	CITY OF ANN ARBOR AAGRS #2020
1	908.38	SOUTH FLANGE BOLT ON HYDRANT, WEST SIDE DRIVEWAY ENTRANCE BY CONDO #2630
2	908.02	NW BOLT ON LAMP POST, EAST SIDE OF WEST ENTRANCE TO CONDO #S 2602-2626
3	912.21	NW BOLT ON LAMP POST, 70'± WEST OF ENTRANCE TO CONDO #2558
4	914.15	SE BOLT ON LAMP POST, NW CORNER OF TRAVER AND LAKEHURST

BOARDWALK DRIVE BENCHMARKS

BM #	ELEV	DESCRIPTION
1	830.51	WEST BOLT ON FLANGE OF HYDRANT, ON THE SW CORNER OF BOARDWALK & OAKBROOK ± 26' WEST OF CENTERLINE OF BOARDWALK AND ± 37' SOUTH FROM CENTERLINE OF OAKBROOK.
2	837.53	ARROW ON HYDRANT, EAST SIDE OF BOARDWALK, JUST NORTH OF GRANGER DRIVEWAY ENTRANCE #2915, AND SOUTH OF DRIVEWAY ENTRANCE TO THE BOARDWALK COMMERCE CENTER #2801-2875

STIMSON STREET BENCHMARKS

BM #	ELEV	DESCRIPTION
1	839.98	ARROW ON HYDRANT. 45± WEST OF ℄ OF WHITE ST. AND 20'± NORTH OF ℄ OF STIMSON ST.
2	843.75	E'LY FLANGE BOLT ON HYDRANT. 25'± EAST OF ℄ OF S. STATE ST. AND 40'± NORTH OF ℄ OF STIMSON ST.

PERMITS REQUIRED TO BE OBTAINED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF CONSTRUCTION.

PERMIT	ISSUING AUTHORITY
LANE CLOSURE PERMIT*	CITY OF ANN ARBOR ENGINEERING
"NO PARKING" SIGNS PERMIT*	CITY OF ANN ARBOR ENGINEERING
GRADING/SOIL EROSION & SEDIMENTATION CONTROL PERMIT*	CITY OF ANN ARBOR CUSTOMER SERVICE
RIGHT-OF-WAY PERMIT*	CITY OF ANN ARBOR CUSTOMER SERVICE

* NO COST TO CONTRACTOR

CONTACT INFORMATION

PUBLIC UTILITIES	OWNER	CONTACT
WATER		
SANITARY		
STORM	CITY OF ANN ARBOR PUBLIC WORKS W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD ANN ARBOR, MI 48108	(734) 794-6350
FORESTRY		
SIGNS SIGNALS STREET LIGHTS		CHUCK FOJTIK (734) 794-6361

PRIVATE UTILITIES	OWNER	CONTACT
GAS	DTE ENERGY 3150 E. MICHIGAN AVE, YPSILANTI TOWNSHIP, MI 48198	ROBERT CZAPIEWSKI (734) 544-7818
ELECTRIC	DTE ENERGY WESTERN WAYNE SERVICE CENTER 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	ANTHONY IGNASIAK (734) 397-4447
CABLE	COMCAST 27800 FRANKLIN ROAD SOUTHFIELD, MI 48034	RON SOUTHERLAND (313) 999-8300
PHONE	AT&T 550 S. MAPLE ROAD ANN ARBOR, MI 48103	MARC GOODELL (313) 405-0574
FIBER OPTIC	MCI 2800 N. GLENFILLE ROAD RICHARDSON, TX 75082	DEAN BOYERS (972) 729-6016
FIBER OPTIC	WINDSTREAM 1295 S LINDEN ROAD, SUITE B FLINT, MI 48532	GREG SERICH (810) 244-3500
STREET LIGHTING	DTE ENERGY 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	LANCE ALLEY (734) 397-4188

811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	ISSUED FOR BID	6-3-2021	CC,DF,KB	TB
01	ADDENDUM #1	6-15-2021	DF	TB

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E. HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

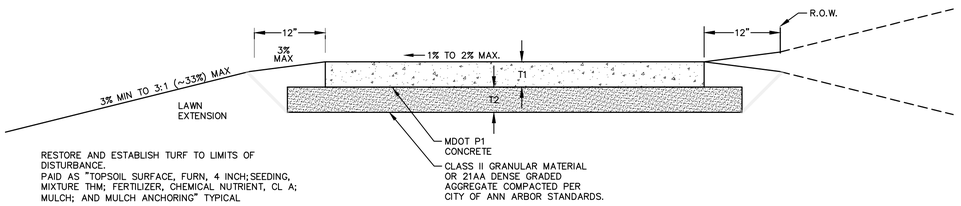
SIDEWALK GAP ELIMINATION - 2021

STANDARD NOTES

SCALE: NTS

DRAWING No. 2021007-2

SHEET No. 2 OF 29



RESTORE AND ESTABLISH TURF TO LIMITS OF DISTURBANCE.
PAID AS "TOPSOIL SURFACE, FURN, 4 INCH; SEEDING, MIXTURE THM; FERTILIZER, CHEMICAL NUTRIENT, CL A; MULCH; AND MULCH ANCHORING" TYPICAL

NOTES:

1. SIDEWALK SHALL BE A DESIGNED AND CONSTRUCTED TO MEET ALL ADA STANDARDS AND REQUIREMENTS.
2. CITY OF ANN ARBOR MINIMUM STANDARD WIDTH OF SIDEWALK IS FIVE (5) FEET.
3. CONCRETE SIDEWALK THICKNESS (T1) SHALL BE A MINIMUM OF FOUR (4) INCHES.
4. SIDEWALK THICKNESS (T1) SHALL BE INCREASED AT DRIVE APPROACHES TO SIX (6) INCHES FOR SINGLE–FAMILY OR DUPLEX RESIDENTIAL USES. ALL OTHER USES REQUIRE A MINIMUM EIGHT (8) INCH THICKNESS WITHIN THE DRIVE APPROACH.
5. BASE THICKNESS (T2) SHALL BE A MINIMUM OF FOUR (4) INCHES.
6. THICKNESS OF THE BASE (T2) SHALL BE INCREASED TO A MINIMUM OF SIX (6) INCHES WITHIN THE DRIVE APPROACH.
7. IF EXISTING SUBGRADE MATERIAL IS APPROVED BY THE ENGINEER FOR USE, COMPACT THE EXISTING SUBGRADE TO 95% OF THE MATERIAL'S MAXIMUM DRY DENSITY.
8. NATIVE MATERIAL MAY BE ACCEPTABLE FOR SIDEWALK CONSTRUCTION, IF THE BASE IS STABLE AND FREE OF ORGANIC OR DELETERIOUS MATERIALS.
9. SIDEWALK RAMPS SHALL BE CONSTRUCTED AT STREET INTERSECTIONS AS DIRECTED AND SHALL COMPLY WITH THE REQUIREMENTS OF MDOT DETAIL R–28 (LATEST VERSION).
10. SIDEWALKS MAY MEANDER WITHIN THE RIGHT–OF–WAY TO PROTECT AND PRESERVE NATURAL FEATURES.
11. EXPANSION AND CONTRACTION JOINTS SHALL BE PROVIDED PER CITY OF ANN ARBOR STANDARD DETAILS AND SPECIFICATIONS.

SIDEWALK CROSS SECTION, SD-R-9

EXISTING LEGEND

- FIRE HYDRANT
- GATE VALVE IN BOX
- GATE VALVE IN WELL
- STOP BOX
- WATER VAULT
- WELL
- CATCH BASIN (SQ)
- CATCH BASIN (RD)
- STORM MANHOLE
- NON–CURB CATCH BASIN (SQ)
- END SECTION
- SANITARY MANHOLE
- CLEAN–OUT
- POST
- PEDESTRIAN SIGNAL
- SIGN
- HAND HOLE
- ORNAMENTAL LIGHT
- FLOOD LIGHT
- UNKNOWN MANHOLE
- TELEPHONE MANHOLE
- TELEPHONE RISER
- GAS VALVE
- GAS VENT
- GAS BOX
- ELECTRICAL RISER
- TRANSFORMER
- UTILITY POLE
- LAMP POLE
- GUY ANCHOR
- GUY POLE
- MONITORING WELL
- MAILBOX
- SOIL BORING
- TRAVERSE POINT
- BENCH MARK
- IRON PIPE
- MON BOX

- WATER MAIN
- WATER MAIN ABANDONED
- STORM SEWER
- STORM SEWER ABANDONED
- SANITARY SEWER
- SANITARY SEWER ABANDONED
- GAS MAIN
- GAS MAIN (DEAD)
- ELECTRICAL OVER HEAD
- ELECTRICAL UNDER GROUND
- ELECTRICAL DUCT BANK
- TELEPHONE OVER HEAD
- TELEPHONE UNDER GROUND
- TELEPHONE DUCT BANK
- CABLE TV OVER HEAD
- CABLE TV UNDER GROUND
- FIBER OPTIC
- FIBER OPTIC DUCT BANK
- BOUNDARY
- BUILDING
- CENTERLINE OF DITCH
- CENTERLINE/CROWN OF ROAD
- CONTOUR MAJOR
- CONTOUR MINOR
- EDGE OF WATER
- FLOODPLAIN
- FENCE
- GRAVEL
- GUARDRAIL
- STONE WALL
- R.O.W.
- TREELINE
- WETLAND
- EDGE OF BRUSH
- HEDGE
- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- SHRUB (DECIDUOUS)
- STUMP
- TREE TO REMAIN & PROTECT (DECIDUOUS)
  CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREAST HEIGHT (INCHES) X 10
- TREE TO REMAIN & PROTECT (CONIFEROUS)
  CRITICAL ROOT ZONE (C.R.Z.) = DIAMETER BREAST HEIGHT (INCHES) X 10

PROPOSED LEGEND

- HYDRANT (PLAN)
- WATER GATE WELL
- REDUCER
- WATER GATE VALVE
- WATER STOP BOX
- WATER VAULT
- INLET
- DOUBLE INLET
- INLET JUNCTION CHAMBER
- ROUND CATCH BASIN
- STORM MANHOLE
- DRAIN ARROW
- FLARED END SECTION
- SANITARY MANHOLE
- CLEAN–OUT
- BARREL
- SIGN
- PUSH BUTTON
- HAND HOLE

- WATER MAIN
- STORM SEWER
- SANITARY SEWER
- FIBER OPTIC
- ELECTRICAL
- CENTERLINE OF DITCH
- CENTERLINE OF ROAD
- FENCE
- GRAVEL
- SILT FENCE
- PROTECTIVE FENCE
- GUARDRAIL
- LOT/UNIT
- CURB
- TEMPORARY GRADING PERMIT
- CONTOUR MAJOR
- CONTOUR MINOR
- WATER EASEMENT
- STORM EASEMENT
- SANITARY EASEMENT
- R.O.W.
- LIMITS OF CONSTRUCTION
- LIMIT OF GRADING
- STONE WALL
- DETECTABLE WARNING
- ASPHALT
- CONCRETE
- SIDEWALK
- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- TREE TO BE REMOVED (DECIDUOUS)
- TREE TO BE REMOVED (CONIFEROUS)
- STUMP TO BE REMOVED

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00	ISSUED FOR BID	6–3–2021	CC.DF.KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SIDEWALK GAP ELIMINATION - 2021

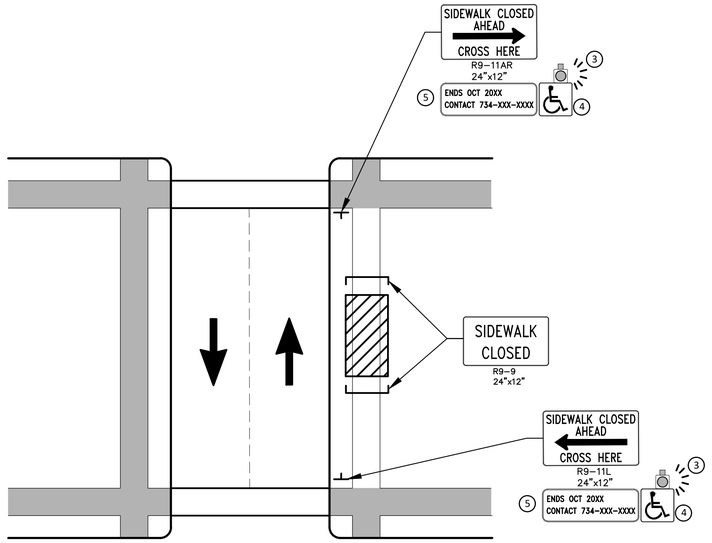
LEGEND & DETAILS

SCALE : NTS

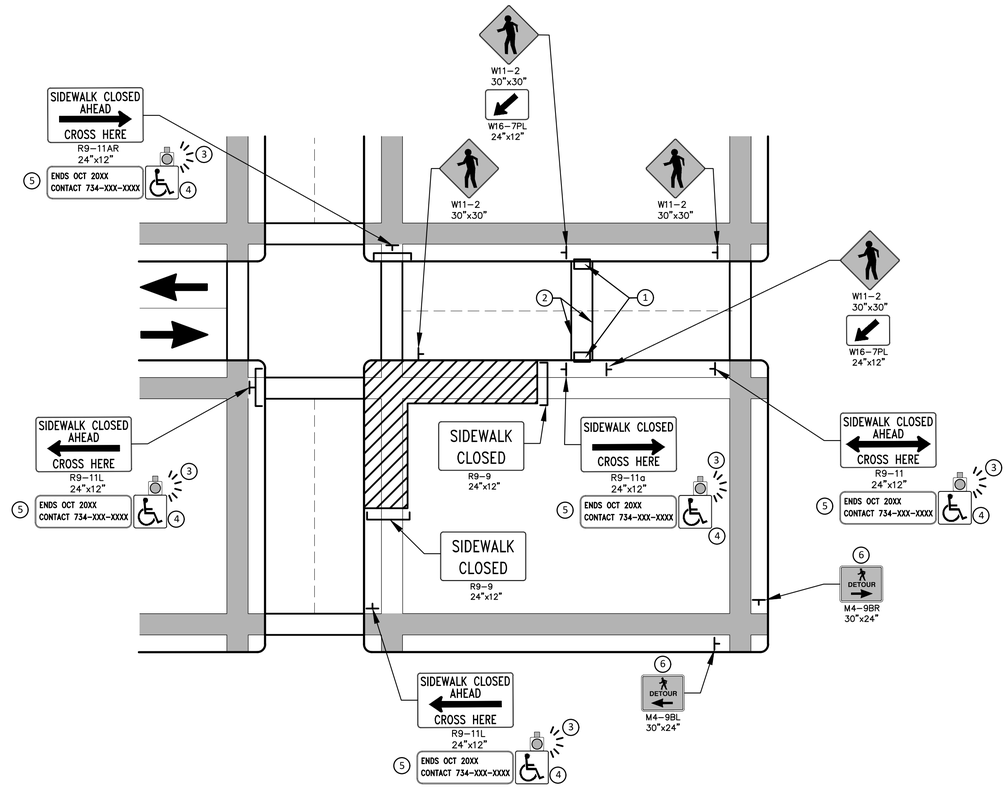
DRAWING No. 2021007-3

SHEET No. 3 OF 29

R:\2021007 Sidewalk Gaps\Plan Production\2021007Cov.dwg — _a2 standard bw.stb — Plot Date: 6/16/2021 12:03:03 PM



PEDESTRIAN DETOUR USING OPPOSITE SIDE OF STREET



OTHER SIDE OF STREET DETOUR OR DETOUR WITH TRAILBLAZING SIGNS
(FOR CORNER SIDEWALK CLOSURE WITH OPTIONAL TEMPORARY CROSSWALK)

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, THE CONTRACTOR SHALL PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (APR) AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. COMPACTED GRAVEL, AGGREGATE, OR SLAG MATERIALS ARE NOT ALLOWED. PROVIDE A FIRM, STABLE, AND SLIP RESISTANT TEMPORARY WALKWAY SURFACE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND.

THE PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS SHALL BE COVERED OR DEACTIVATED BY THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE THIS WORK WITH THE ENGINEER A MINIMUM OF 72 HOURS (NOT INCLUDING WEEKENDS & HOLIDAYS) PRIOR TO THE BEGINNING OF WORK THAT REQUIRES A SIDEWALK CLOSURE.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

WHEN THE ENGINEER DETERMINES THAT THE CONTRACTOR'S OPERATIONS OR PLACEMENT OF TRAFFIC CONTROL DEVICES HAS CAUSED A SITUATION THAT THE VISIBILITY OF IS REDUCED ENOUGH TO CREATE A HAZARD, THE TRAFFIC CONTROL DEVICES SHALL BE DELINEATED WITH FLAGS OR OTHER ENGINEER-APPROVED DEVICES AT NO ADDITIONAL COST TO THE PROJECT.

MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

1. PROVIDE THE APR ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME SIDE APR, PROVIDE A DETOUR ON THE OTHER SIDE OF THE STREET.
3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON THE OTHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS AS SHOWN ON THE PROJECT PLANS.

SPECIFIC NOTES

(1) TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.

(2) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

(3) AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE SHALL BE PROVIDED FOR SIGHT-IMPAIRED PEDESTRIANS.

(4) THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHOULD BE DISPLAYED WHEN ANY WALKWAY THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE TPAR COMPLIANT. THE SYMBOL OF ACCESSIBILITY SHALL NOT BE DISPLAYED IF PERSONS WITH DISABILITIES SHOULD NOT USE THE PRIMARY TEMPORARY PEDESTRIAN DETOUR. THE REASON FOR THE NON-COMPLIANCE SHALL BE POSTED AND AN ALTERNATE ROUTE SHALL BE POSTED WHEN THE PRIMARY TEMPORARY PEDESTRIAN DETOUR IS NON-COMPLIANT TO TPAR STANDARDS.

(5) TYPICAL SIGN MESSAGE FOR A TEMPORARY PEDESTRIAN DETOUR SHALL INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24 / 7 QUESTIONS OR REPORTING HAZARDS.

(6) PEDESTRIAN DETOUR TRAILBLAZING SIGNS SHALL BE USED IF THE PEDESTRIAN DETOUR IS IN A LOCATION OTHER THAN ACROSS THE STREET FROM THE SIDEWALK CLOSURE.

PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES

1. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN THROUGH MOVEMENTS FROM ONE END OF THE CONSTRUCTION AREA TO THE OTHER, ON AT LEAST ONE SIDE OF THE STREET DURING CONSTRUCTION. ANY SIDEWALK CLOSURES SHALL MEET THE REQUIREMENTS OF THE MMUTCD, PART 6.
2. PEDESTRIAN ACCESS SHALL BE PROVIDED TO ALL ADJACENT PROPERTIES, BUILDINGS, RESIDENCES AND COMMERCIAL PROPERTIES AT ALL TIMES. THIS MAY INCLUDE TEMPORARY WALKWAYS SPANNING THE CONSTRUCTION AREA.
3. IF SIDEWALKS ARE CLOSED, A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) SHALL BE PROVIDED ON THE SAME SIDE OF THE ROAD AS THE CLOSED SIDEWALK, IF POSSIBLE. SIGNS AND BARRICADES SHALL BE USED TO PROVIDE ADVANCE NOTICE OF THE CLOSURE AND THE ROUTE OF ANY PEDESTRIAN DETOURS. THE TPAR SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4 FEET. IF THE TPAR IS LESS THAN 5 FEET IN WIDTH, A 5 FOOT BY 5 FOOT PASSING SPACE SHALL BE PROVIDED AT LEAST EVERY 200 FEET. THE SURFACE OF THE TPAR SHALL BE SMOOTH AND CONTINUOUS FOR THE LENGTH OF THE TPAR. THE TPAR SHALL MAINTAIN THE SAME LEVEL OF ACCESSIBILITY AND DETECTABILITY AS THE FACILITY THAT IS BEING CLOSED. THE TPAR SHALL NOT LEAD PEDESTRIANS INTO CONFLICTS WITH VEHICLES, EQUIPMENT, OR CONSTRUCTION OPERATIONS.
4. IF THE TPAR IS ADJACENT TO MOVING TRAFFIC, CONSTRUCTION OPERATIONS/EQUIPMENT, OR DROP-OFFS, THEN CRASH WORTHY CHANNELIZING DEVICES THAT MEET THE REQUIREMENTS OF NCHRP 350 AND THE MMUTCD SHALL BE USED.
5. THE CONTRACTOR SHALL NOT STORE OR PLACE ANY CONSTRUCTION MATERIALS, EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.
6. THE CONTRACTOR'S OPERATIONS SHALL NOT OCCUPY SIDEWALKS EXCEPT WHERE PROPER PROTECTION AND A TPAR HAVE BEEN PROVIDED.
7. WHEN DIRECTED BY THE ENGINEER, OR STATED ON THE PLANS, THE CONTRACTOR SHALL PROVIDE A TEMPORARY PEDESTRIAN TRAFFIC CONTROL PLAN FOR REVIEW AND WRITTEN APPROVAL BY THE ENGINEER A MINIMUM OF THREE WEEKS BEFORE SUCH PLAN IS IMPLEMENTED. THIS PLAN SHALL DETAIL THE CONSTRUCTION PHASING AND SCHEDULE AND THE SPECIFIC METHODS OF MAINTAINING SAFE PEDESTRIAN ACCESS THROUGHOUT THE CONSTRUCTION AREA. THIS PLAN SHALL PROVIDE THE LOCATION AND DETAILS OF TEMPORARY CONSTRUCTION SIGNING, MARKINGS, BARRICADES, CHANNELIZING DEVICES, TPARS AND METHODS TO MAINTAIN ACCESS TO ADJACENT PROPERTIES, BUSINESSES, RESIDENCES, ETC. NO WORK SHALL BE ALLOWED TO BEGIN UNTIL THIS PLAN IS APPROVED BY THE ENGINEER IN WRITING.
8. PROVISION OF THE TPAR AND ALL OF ITS ELEMENTS, INCLUDING BUT NOT LIMITED TO, CREATION OF THE TEMPORARY PEDESTRIAN CONTROL PLAN, SIGNS, CHANNELIZING DEVICES, BARRICADES, TEMPORARY PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "MINOR TRAF DEVICES."

LEGEND

- SIGN
- EXISTING PEDESTRIAN SURFACE
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- BARRIER
- SIDEWALK BARRICADE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL DEVICE

811 Know what's **below.** **Call before you dig.**

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SIDEWALK GAP ELIMINATION - 2021

ALTERNATE PEDESTRIAN ROUTE (APR) DETOUR

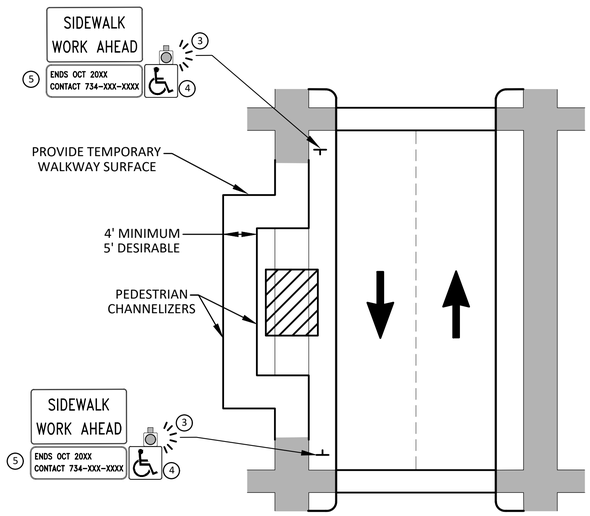
SCALE : N.T.S.

DRAWING No. 2021007-4

SHEET No.

4 OF 29

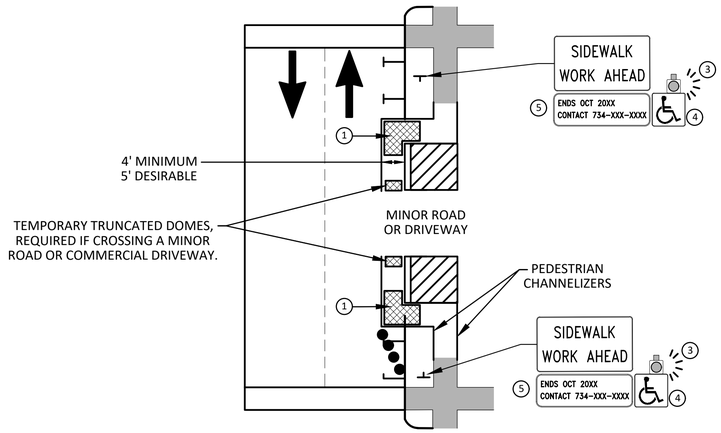
R:\2021007 Sidewalk Gaps\Plan Production\20210070et.dwg Dwg Created: 15-Jun-21 - _02 standard bw.stb - Plot Date: 16-Jun-21



BYPASS ON ADJACENT AVAILABLE RIGHT OF WAY

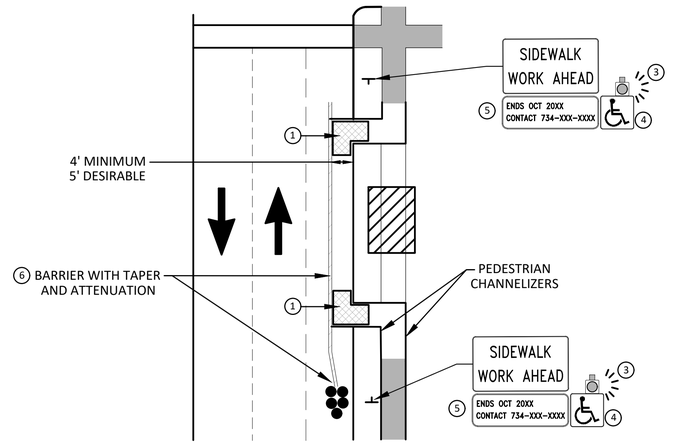
BYPASS TYPE A

NOTE: MAY ONLY BE USED ON ROADWAY WITH POSTED SPEED OF 45 MPH OR LESS.



SIDEWALK BYPASS USING PARKING OR SHOULDER ON LOW SPEED ROADWAY

BYPASS TYPE B



SIDEWALK BYPASS USING SHOULDER OR PARKING LANE ON HIGH SPEED ROADWAY

BYPASS TYPE C

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, THE CONTRACTOR SHALL PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (APR) AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. COMPACTED GRAVEL, AGGREGATE, OR SLAG MATERIALS ARE NOT ALLOWED. PROVIDE A FIRM, STABLE, AND SLIP RESISTANT TEMPORARY WALKWAY SURFACE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND.

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POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

WHEN THE ENGINEER DETERMINES THAT THE CONTRACTOR'S OPERATIONS OR PLACEMENT OF TRAFFIC CONTROL DEVICES HAS CAUSED A SITUATION THAT THE VISIBILITY OF A TRAFFIC CONTROL DEVICE IS REDUCED ENOUGH TO CREATE A HAZARD, THE TRAFFIC CONTROL DEVICES SHALL BE DELINEATED WITH FLAGS OR OTHER ENGINEER-APPROVED DEVICES AT NO ADDITIONAL COST TO THE PROJECT.

MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

1. PROVIDE THE APR ON THE SAME SIDE OF THE STREET AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME SIDE APR, PROVIDE A DETOUR ON THE OTHER SIDE OF THE STREET.
3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON THE OTHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS AS SHOWN ON THE PROJECT PLANS.

SPECIFIC NOTES

1. TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.
2. 5 DEVICE TAPER 25 FEET LONG, RECOMMENDED WHEN THE CLOSED AREA WAS USED AS AN INTERMITTENT TRAFFIC LANE OR BYPASS LANE. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.
3. AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE SHOULD BE PROVIDED FOR SIGHT-IMPAIRED PEDESTRIANS.
4. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE DISPLAYED WHEN ANY WALKWAY THROUGH A WORK ZONE HAS BEEN DETERMINED TO BE TPAR COMPLIANT. THE SYMBOL OF ACCESSIBILITY SHALL NOT BE DISPLAYED IF PERSONS WITH DISABILITIES SHOULD NOT USE THE PRIMARY TEMPORARY PEDESTRIAN DETOUR. THE REASON FOR THE NON-COMPLIANCE SHALL BE POSTED AND AN ALTERNATE ROUTE SHALL BE POSTED WHEN THE PRIMARY TEMPORARY PEDESTRIAN DETOUR IS NON-COMPLIANT TO TPAR STANDARDS.
5. TYPICAL SIGN MESSAGE FOR A TEMPORARY PEDESTRIAN DETOUR SHALL INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24 / 7 QUESTIONS OR REPORTING HAZARDS.
6. SEE MMUTCD FOR GUIDANCE ON PLACEMENT AND USAGE OF BARRIER.

LEGEND

- SIGN
- EXISTING PEDESTRIAN SURFACE
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- BARRIER
- SIDEWALK BARRICADE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL DEVICE

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

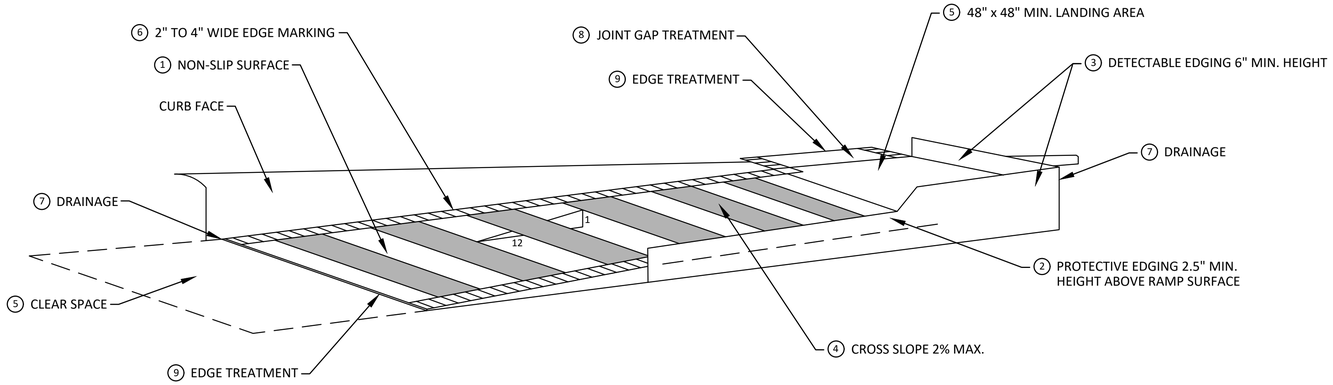
SIDEWALK GAP ELIMINATION - 2021

ALTERNATE PEDESTRIAN ROUTE (APR) BYPASS

SCALE : N.T.S.

DRAWING No. 2021007-5

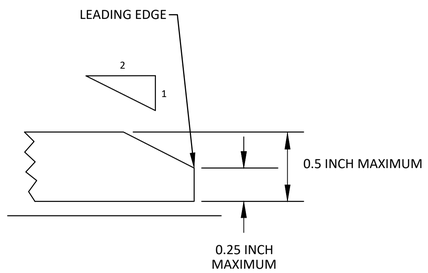
SHEET No. 5 OF 29



TEMPORARY CURB RAMP
PARALLEL TO CURB

SPECIFIC NOTES

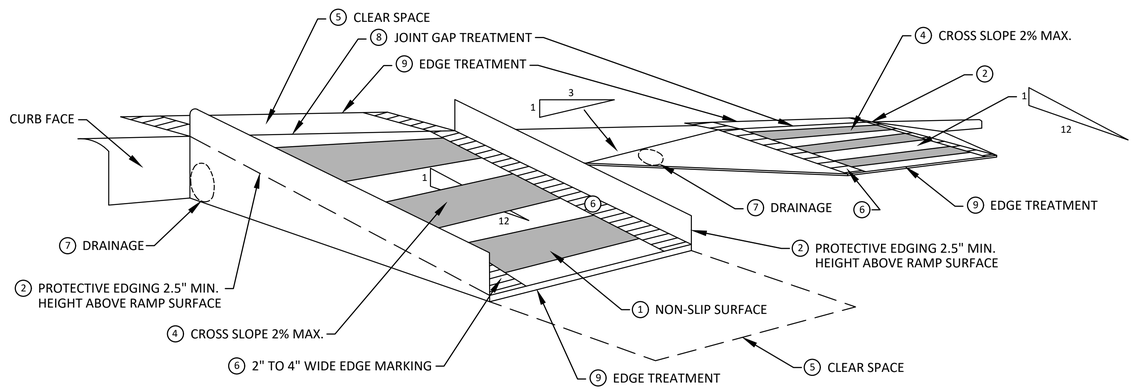
1. CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.
2. PROTECTIVE EDGING WITH A 2.5" MIN. HEIGHT ABOVE THE RAMP SHALL BE PLACED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3. PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
3. DETECTABLE EDGING ANYTIME A HANDRAIL IS REQUIRED, AND ANYTIME THE PATH CHANGES DIRECTION. THIS INCLUDES A TURN ONTO THE RAMP FROM THE PATH. DETECTABLE EDGING MUST BEGIN A MAXIMUM OF 2.5" ABOVE THE RAMP SURFACE, AND EXTEND AT LEAST 6" ABOVE THE RAMP SURFACE. CONTRASTING COLOR SHALL BE PLACED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. CURB RAMPS AND LANDINGS SHALL HAVE A 2% MAX. CROSS SLOPE.
5. CLEAR SPACE OF 48" x 48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
6. THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A CONTRASTING COLOR, 2" TO 4" WIDE MARKING. THE MARKING IS OPTIONAL WHERE COLOR CONTRASTING EDGING IS USED.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL NOT BE IMPEDED.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHOULD BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2" HEIGHT.



9 EDGE TREATMENT

SHOWN WITH PROTECTIVE EDGE

SHOWN WITH SIDE APRON



TEMPORARY CURB RAMP
PERPENDICULAR TO CURB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

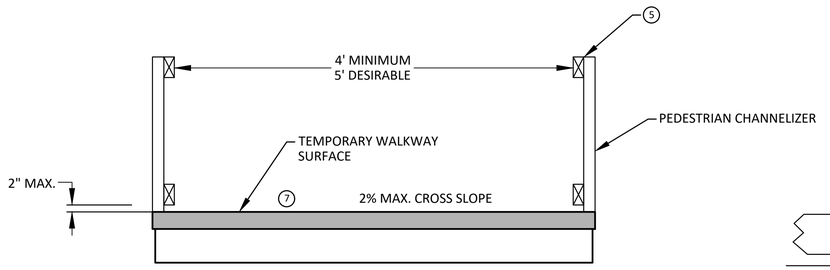
SIDEWALK GAP ELIMINATION - 2021

TPAR RAMPS

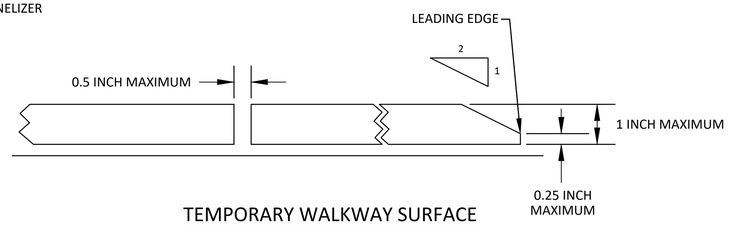
SCALE : N.T.S.

DRAWING No. 2021007-6

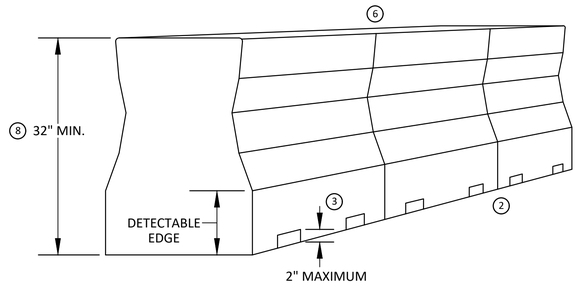
SHEET No. 6 OF 29



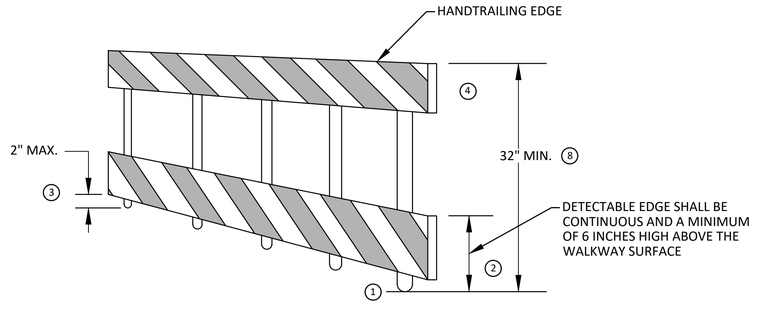
TEMPORARY PEDESTRIAN ACCESS



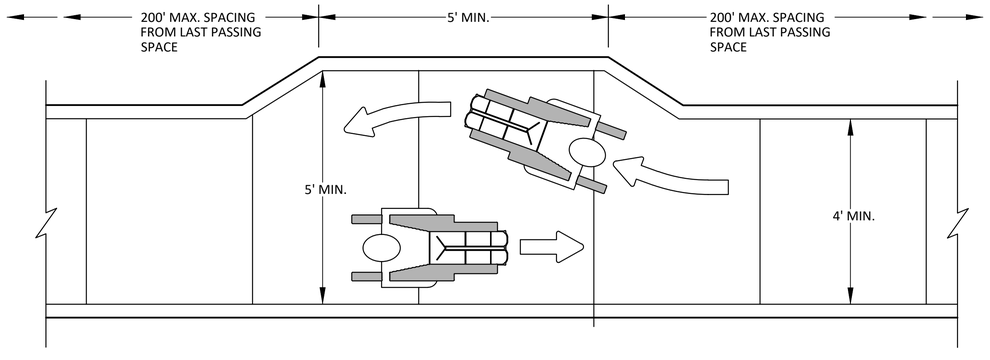
TEMPORARY WALKWAY SURFACE



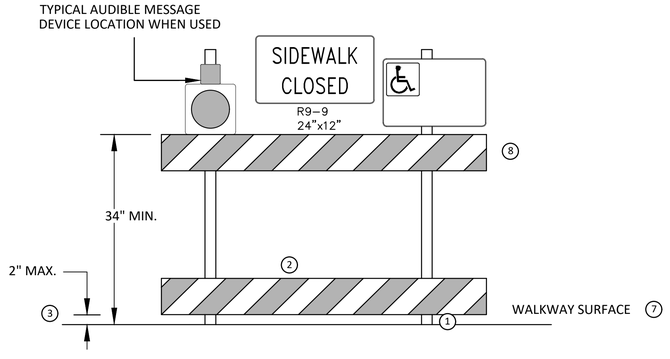
PEDESTRIAN CHANNELIZER USING A BARRIER
(MINIMUM REQUIREMENTS)



PEDESTRIAN CHANNELIZER
(MINIMUM REQUIREMENTS)



NARROW TEMPORARY PEDESTRIAN ACCESS ROUTE PASSING DETAIL



SIDEWALK BARRICADE

GENERAL NOTES

RAILINGS OR OTHER OBJECTS MAY PROTRUDE A MAXIMUM OF 4 INCHES INTO THE WALKWAY CLEAR SPACE WHEN LOCATED A MINIMUM OF 27 INCHES ABOVE THE WALKWAY SURFACE.

ANY PEDESTRIAN DEVICES USED TO PROVIDE POSITIVE PROTECTION FOR PEDESTRIANS OR WORKERS SHALL MEET NCHRP 350 CRASHWORTHY REQUIREMENTS APPROPRIATE FOR THE BARRIER'S APPLICATION.

BARRICADES SHALL BE PLACED CONTINUOUSLY ACROSS THE ENTIRE WIDTH OF THE WALKWAY SURFACE BEING CLOSED.

SPECIFIC NOTES

(1) ANY TRIPPING HAZARD IN THE WALKWAY NEEDS A DETECTABLE EDGE. BALLAST SHALL BE LOCATED BEHIND OR INTERNAL TO THE DEVICE. ANY SUPPORT ON THE FRONT OF THE DEVICE SHALL NOT EXTEND INTO THE 48 INCH MINIMUM WALKWAY CLEAR SPACE AND SHALL NOT EXCEED 0.5 INCHES IN HEIGHT ABOVE THE WALKWAY SURFACE.

(2) DETECTABLE EDGES SHALL BE CONTINUOUS AND A MINIMUM OF 6 INCHES IN HEIGHT ABOVE WALKWAY SURFACE AND HAVE COLOR MARKINGS CONTRASTING WITH THE WALKWAY SURFACE.

(3) DEVICES SHALL NOT BLOCK WATER DRAINAGE FROM THE WALKWAY. A GAP HEIGHT OR OPENING FROM THE WALKWAY SURFACE UP TO A MAXIMUM OF 2 INCHES IS ALLOWED FOR DRAINAGE PURPOSES.

(4) PROVIDE A HANDRAIL ON BOTH SIDES OF THE RAMP IF THE RAMP IS NOT EXPOSED TO VEHICLE TRAFFIC AND HAS A TOTAL RISE GREATER THAN 6 INCHES, AND A LENGTH GREATER THAN 72 INCHES.

- ENSURE THE HANDRAIL IS 1.25 AND 1.5 INCHES WIDE AND CONFIGURED TO BE A "GRASPABLE" CROSS-SECTION.

SEE CONSTRUCTION SUBSECTION 2.A FOR ADDITIONAL DETAILS.

WHEN THE RAMP IS EXPOSED TO TRAFFIC, IN LIEU OF HANDRAILS, USE A PROTECTIVE EDGE 2.5 INCHES MINIMUM HEIGHT ABOVE THE RAMP SURFACE OR 1:10 FLARE ON BOTH SIDES OF THE RAMP.

(5) ALL DEVICES SHALL BE FREE OF SHARP OR ROUGH EDGES, AND FASTENERS (BOLTS) SHALL BE ROUNDED TO PREVENT HARM TO HANDS, ARMS OR CLOTHING OF PEDESTRIANS.

(6) ALL DEVICES USED TO CHANNELIZE PEDESTRIAN FLOW SHOULD INTERLOCK SUCH THAT GAPS DO NOT ALLOW PEDESTRIANS TO STRAY FROM THE INTENDED CHANNELIZED PATH.

(7) A WALKWAY SURFACE SHALL BE FIRM, STABLE, AND SLIP RESISTANT. COMPACTED GRAVEL, AGGREGATE, OR SLAG MATERIALS ARE NOT ALLOWED.

(8) LONGITUDINAL CHANNELIZING DEVICES FOR PEDESTRIANS SHALL BE 32 INCHES IN HEIGHT OR GREATER.

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

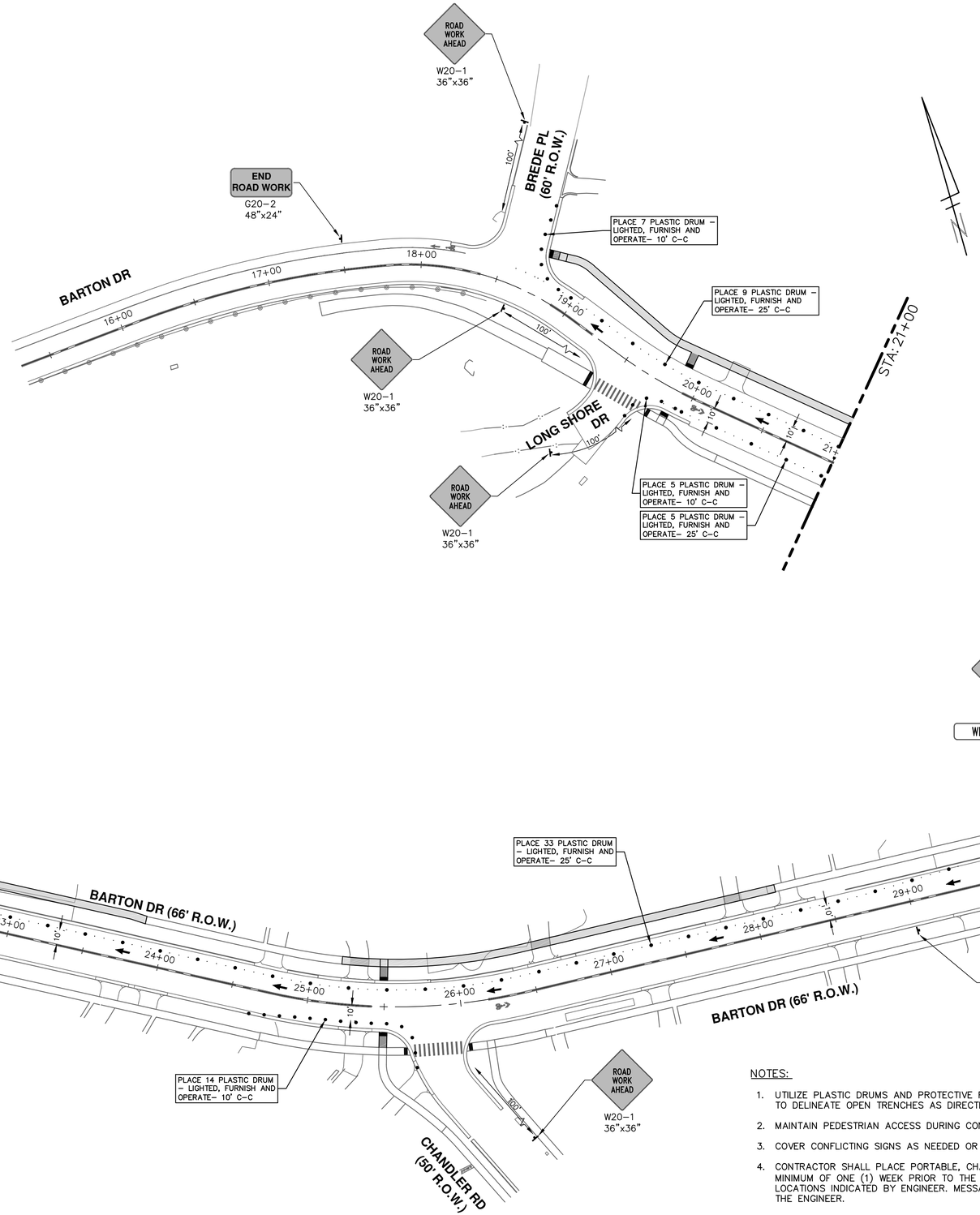
SIDEWALK GAP ELIMINATION - 2021

TPAR WALKWAY DEVICES

SCALE : N.T.S.

DRAWING No. 2021007-7

SHEET No. 7 OF 29



NOTES:

1. UTILIZE PLASTIC DRUMS AND PROTECTIVE FENCING WITHIN WORK ZONE TO DELINEATE OPEN TRENCHES AS DIRECTED BY ENGINEER.
2. MAINTAIN PEDESTRIAN ACCESS DURING CONSTRUCTION.
3. COVER CONFLICTING SIGNS AS NEEDED OR AS DIRECTED BY ENGINEER.
4. CONTRACTOR SHALL PLACE PORTABLE, CHANGEABLE MESSAGE SIGNS A MINIMUM OF ONE (1) WEEK PRIOR TO THE START OF CONSTRUCTION IN LOCATIONS INDICATED BY ENGINEER. MESSAGE TO BE PROVIDED BY THE ENGINEER.

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SIDEWALK GAP ELIMINATION - 2021

BARTON DRIVE

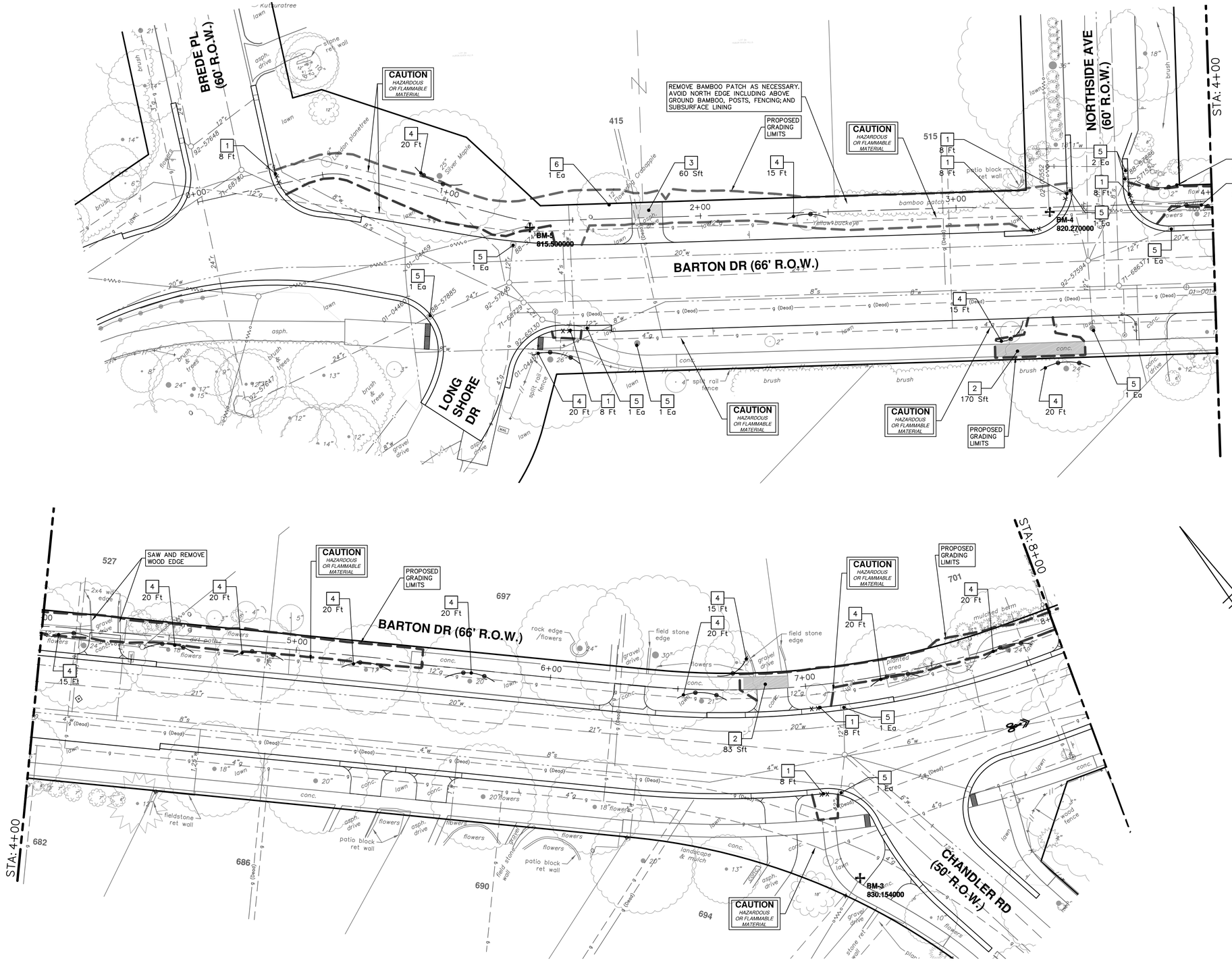
MAINTENANCE OF TRAFFIC

SCALE : 1" = 40'

DRAWING No.
2021007-8

SHEET No.
8 OF 29

R:\2019027 Barton Dr\Plan Production\2021007Mtrf Barton.dwg Dwg Created: 20-May-21 – _a2 standard bw.stb – Plot Date: 16-Jun-21



REMOVAL KEY	
KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, – ANY TYPE *
2	REMOVE CONCRETE SIDEWALK AND DRIVE – ANY THICKNESS *
3	HMA SURFACE REMOVE *
4	PROTECTIVE FENCING
5	INLET FILTER
6	TREE REMOVAL, 8 INCH OR LARGER, MODIFIED
7	HMA PATH REMOVE

* SAWCUT FULL DEPTH AT REMOVAL LIMITS

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	ISSUED FOR BID	6–3–2021	CC,DF,KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SIDEWALK GAP ELIMINATION - 2021

BARTON DRIVE - REMOVALS

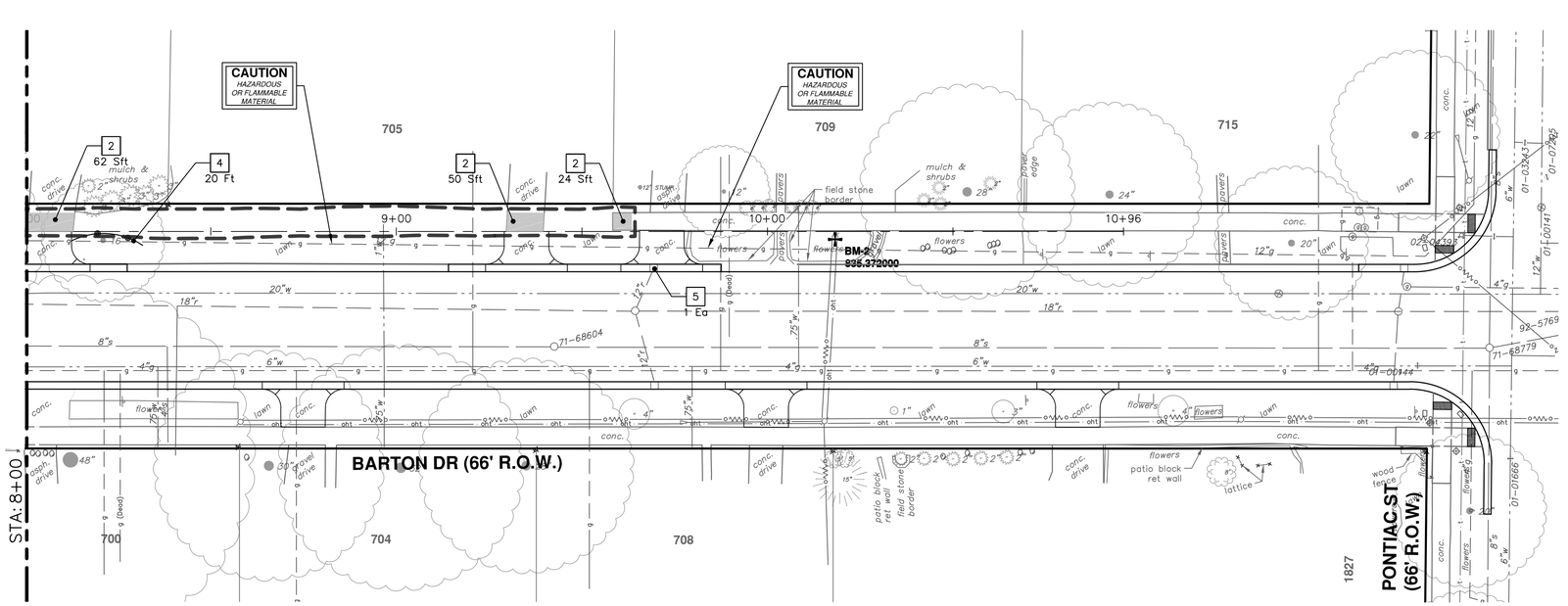
STA. 0+00 - STA. 8+00

SCALE PLAN: 1" = 20'

DRAWING No. 2021007-9

SHEET No. 9 OF 29

R:\2019027 Barton Dr\Plan Production\2021007Rem Barton.dwg Dwg Created: 1–Jun–21 — _a2 standard bw.stb — Plot Date: 16–Jun–21



REMOVAL KEY

KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, – ANY TYPE *
2	REMOVE CONCRETE SIDEWALK AND DRIVE – ANY THICKNESS *
3	HMA SURFACE REMOVE *
4	PROTECTIVE FENCING
5	INLET FILTER
6	TREE REMOVAL, 8 INCH OR LARGER, MODIFIED
7	HMA PATH REMOVE

* SAWCUT FULL DEPTH AT REMOVAL LIMITS

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SIDEWALK GAP ELIMINATION - 2021

BARTON DRIVE - REMOVALS

STA. 8+00 - STA. 9+69

SCALE PLAN: 1" = 20'

DRAWING No. 2021007-10

SHEET No. 10 OF 29

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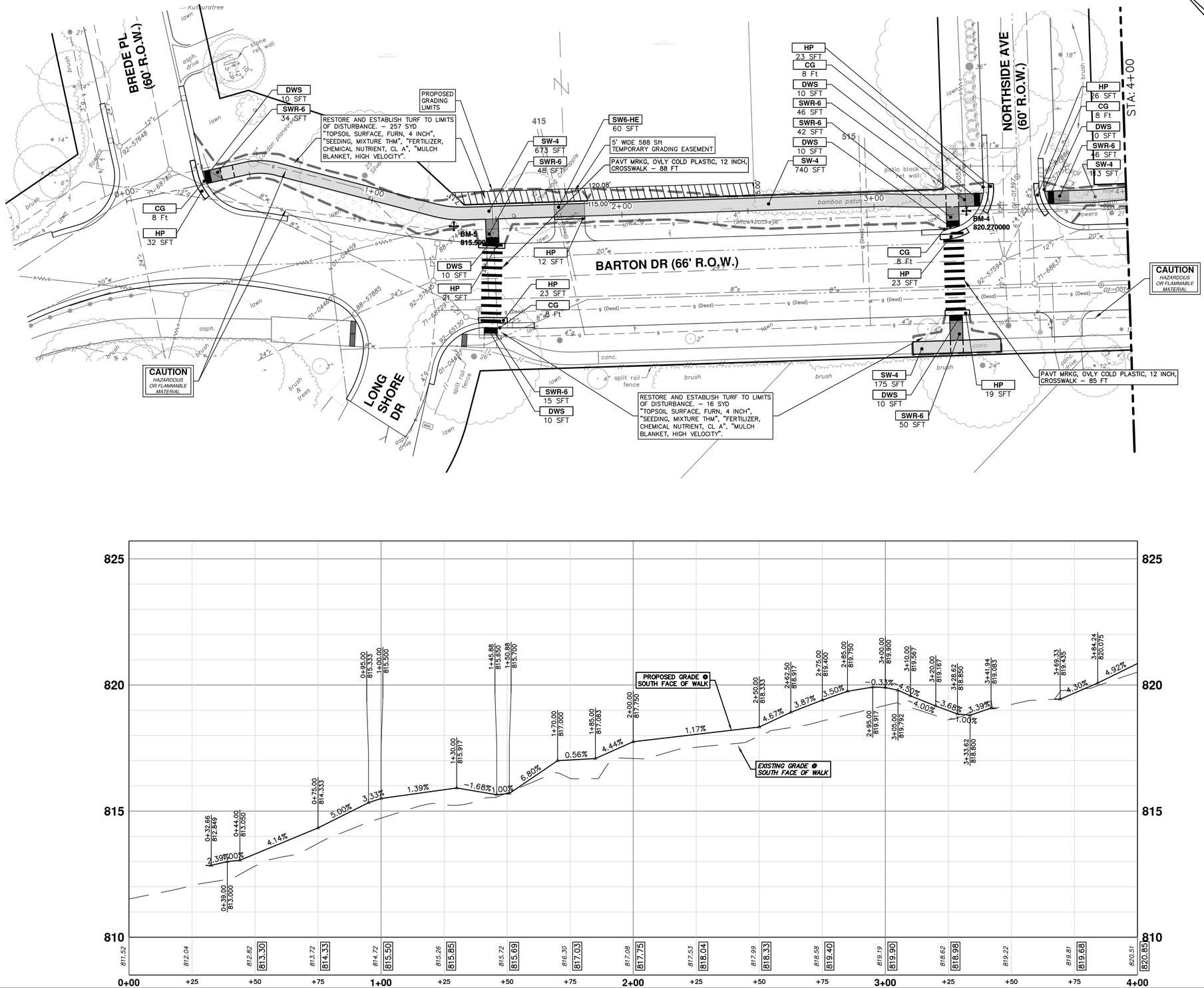

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HP	HAND PATCHING
HMA APP	PLACE HMA APPROACH
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DC-6	PLACE CONC, DRIVE APPROACH, NON–REINFORCED, P–NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
SW6-HE	PLACE SIDEWALK, CONC, 6 INCH, HIGH EARLY
SW8-FM	PLACE SIDEWALK, CONC, 8 INCH, FIBERMESH
SW8-HE	PLACE SIDEWALK, CONC, 8 INCH, HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ADJ	ADJUST STRUCTURE COVER

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	6–15–2021	DF	TB
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SIDEWALK GAP ELIMINATION - 2021

BARTON DRIVE - PROPOSED SIDEWALK

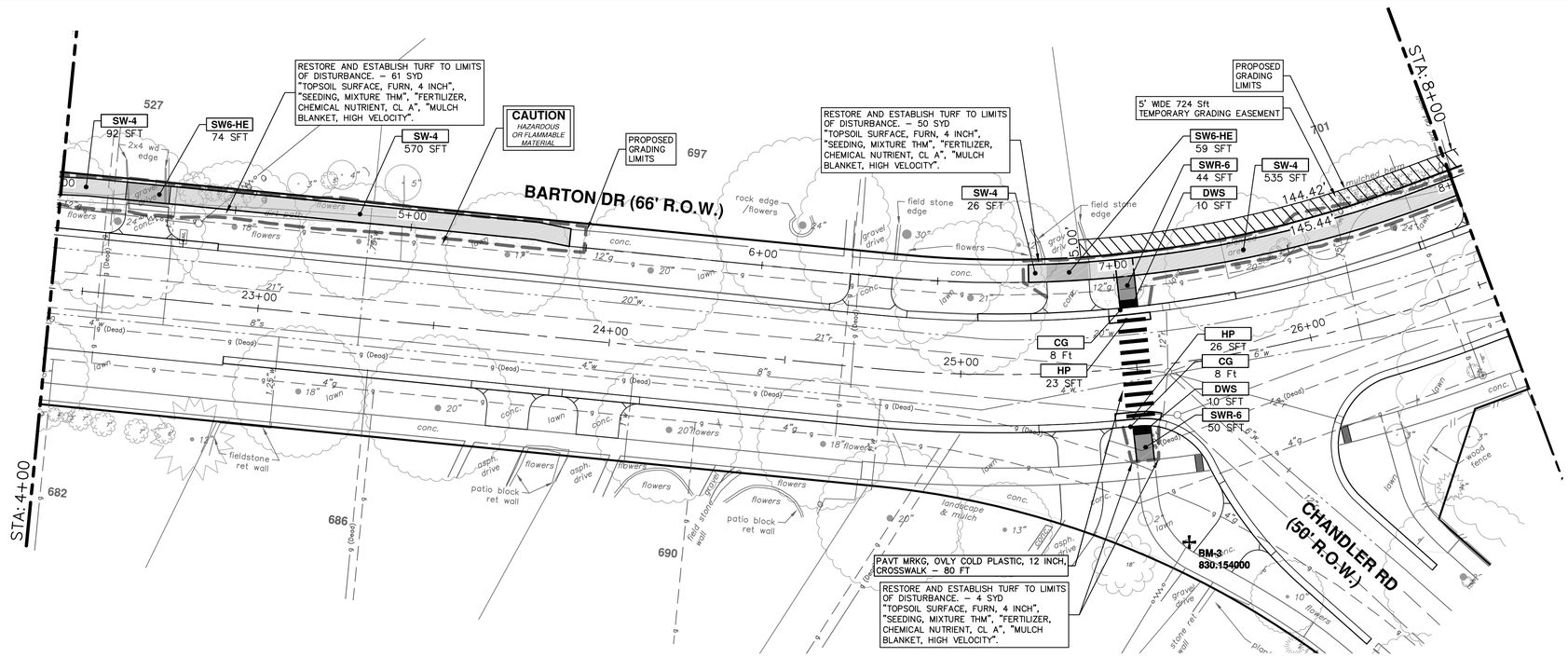
STA. 0+00 - STA. 4+00

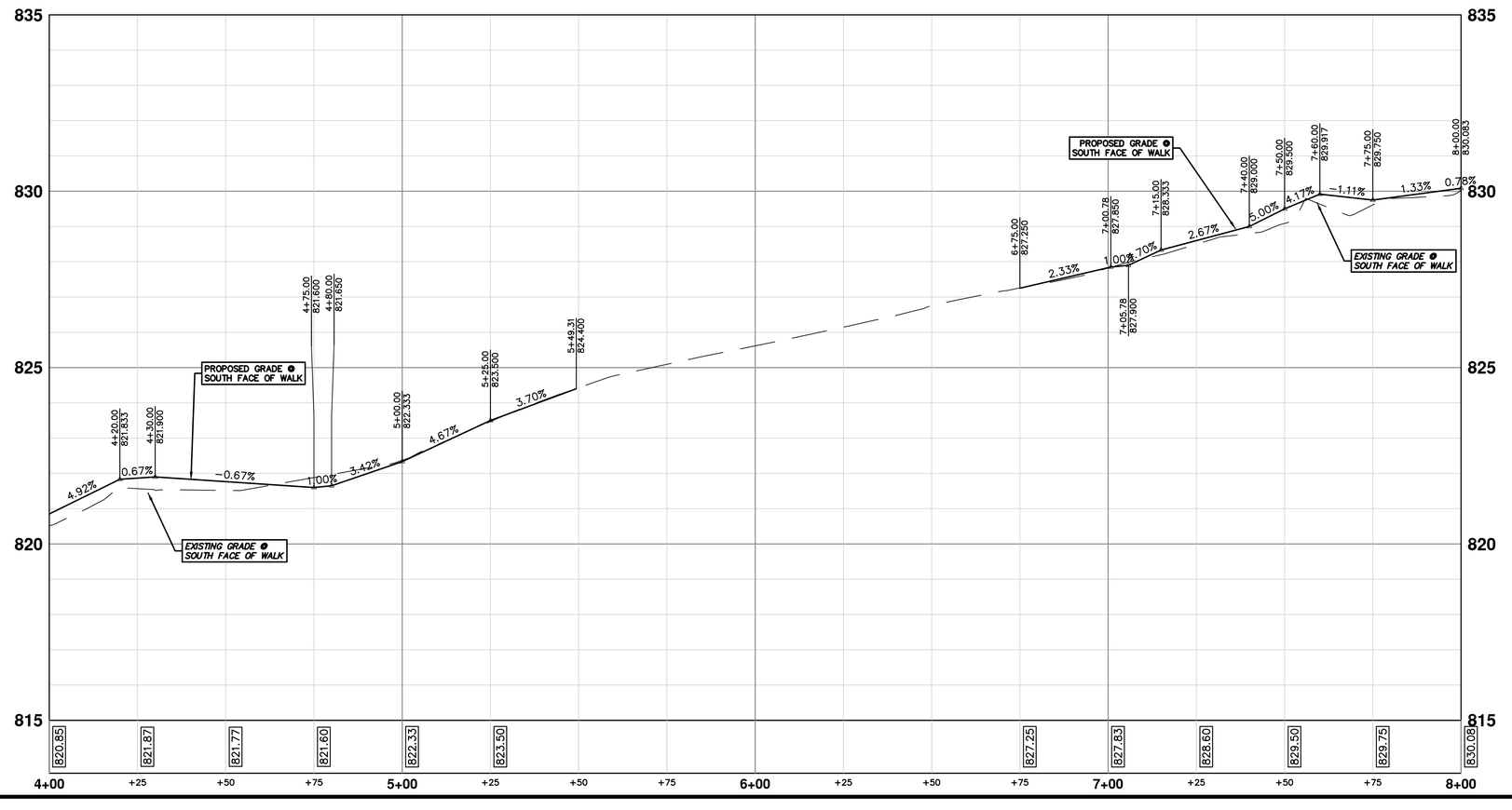
SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2021007-11

SHEET No. 11 OF 29

R:\2019027 Barton Dr\Plan Production\2021007\G2 Barton.dwg Dwg Created: 15-Jun-21 — _a2 standard bw.stb — Plot Date: 16-Jun-21





CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HP	HAND PATCHING
HMA APP	PLACE HMA APPROACH
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DC-6	PLACE CONC, DRIVE APPROACH, NON–REINFORCED, P–NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
SW6-HE	PLACE SIDEWALK, CONC, 6 INCH, HIGH EARLY
SW8-FM	PLACE SIDEWALK, CONC, 8 INCH, FIBERMESH
SW8-HE	PLACE SIDEWALK, CONC, 8 INCH, HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ADJ	ADJUST STRUCTURE COVER

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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SIDEWALK GAP ELIMINATION - 2021

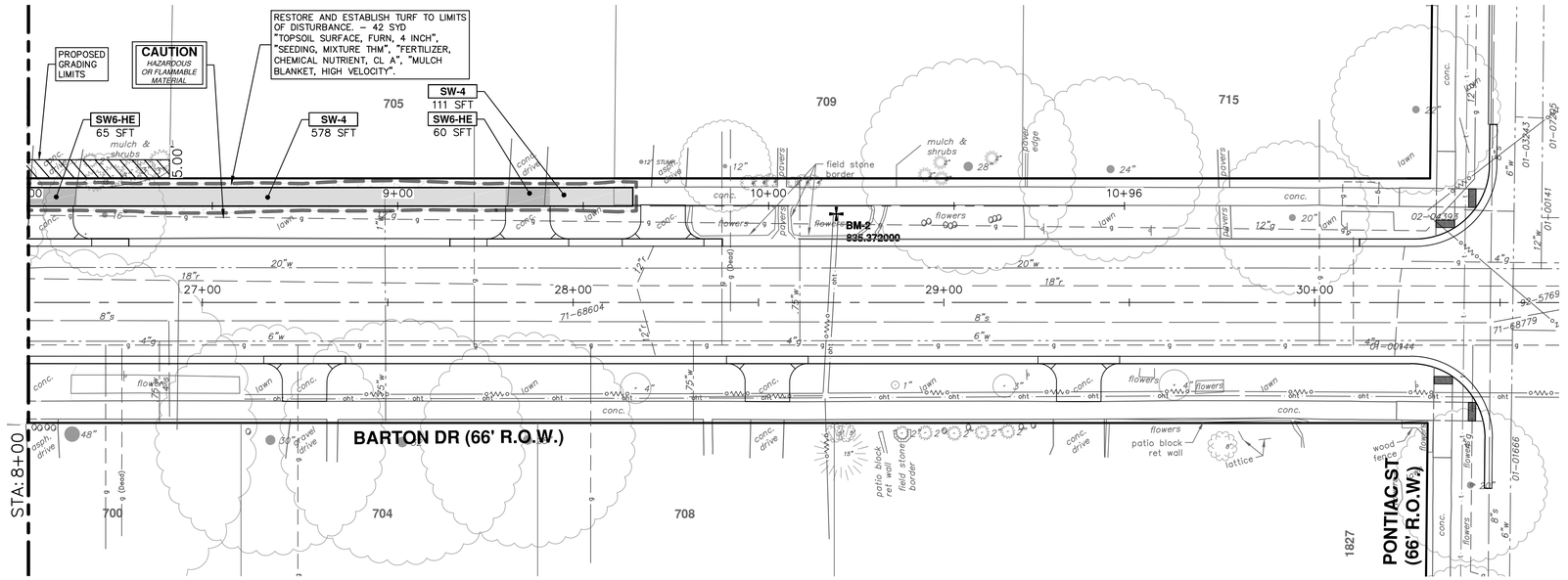
BARTON DRIVE - PROPOSED SIDEWALK

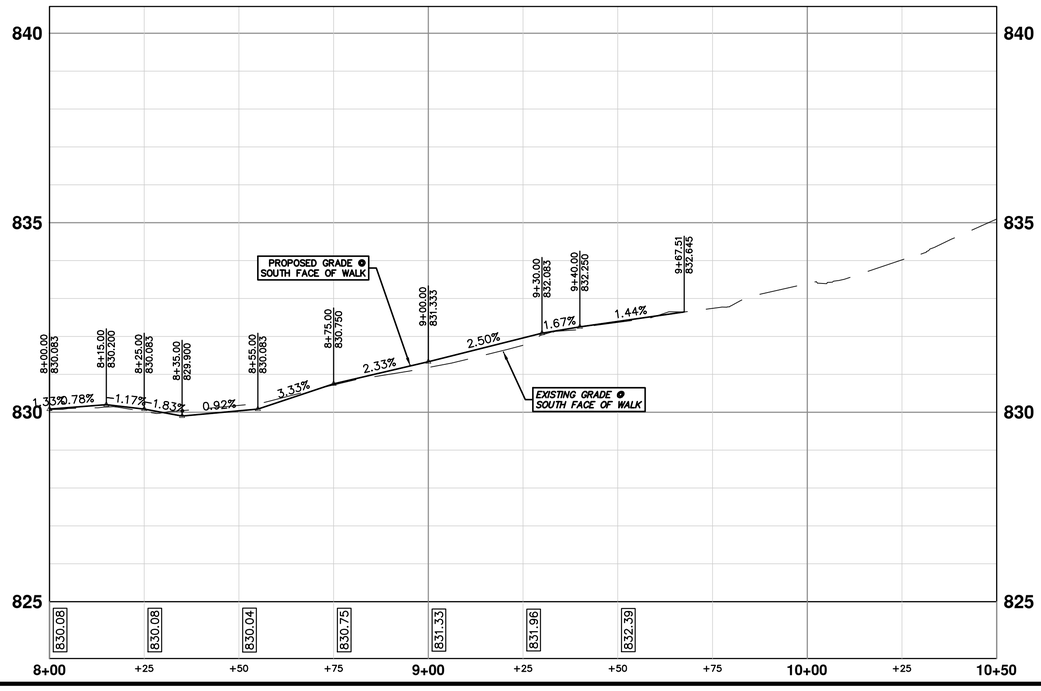
STA. 4+00 - STA. 8+00

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2021007-12

SHEET No. 12 OF 29





CONSTRUCTION KEY

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SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
SW6-HE	PLACE SIDEWALK, CONC, 6 INCH, HIGH EARLY
SW8-FM	PLACE SIDEWALK, CONC, 8 INCH, FIBERMESH
SW8-HE	PLACE SIDEWALK, CONC, 8 INCH, HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ADJ	ADJUST STRUCTURE COVER

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SIDEWALK GAP ELIMINATION - 2021

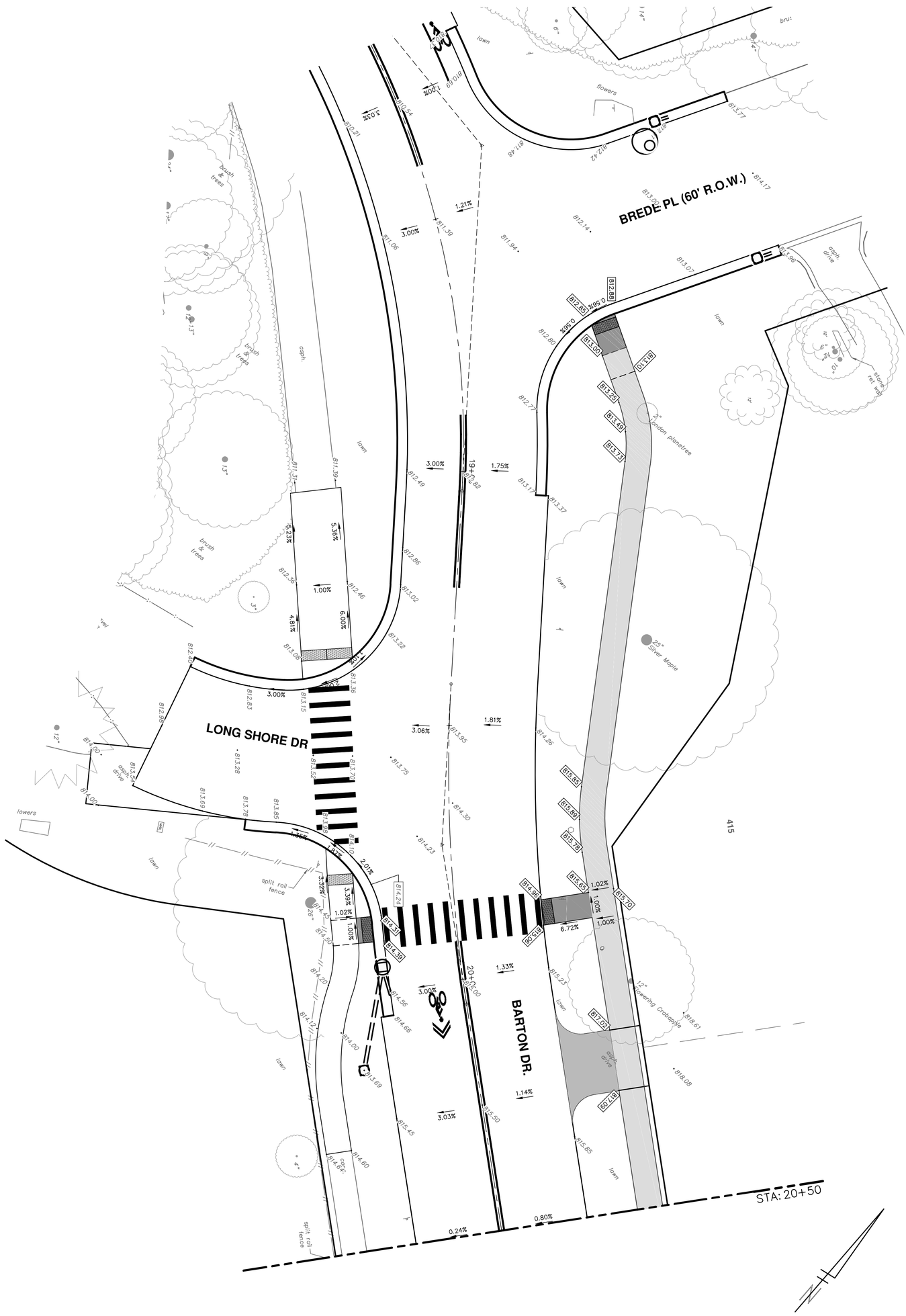
BARTON DRIVE - PROPOSED SIDEWALK

STA. 8+00 - STA. 9+69

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'

DRAWING No. 2021007-13

SHEET No. 13 OF 29



CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE : 1"=10'

DRAWING No. 2021007-14

SIDEWALK GAP ELIMINATION - 2021

BARTON DRIVE - INTERSECTION GRADES

BARTON DR AT BREDE PL AND LONG SHORE DR

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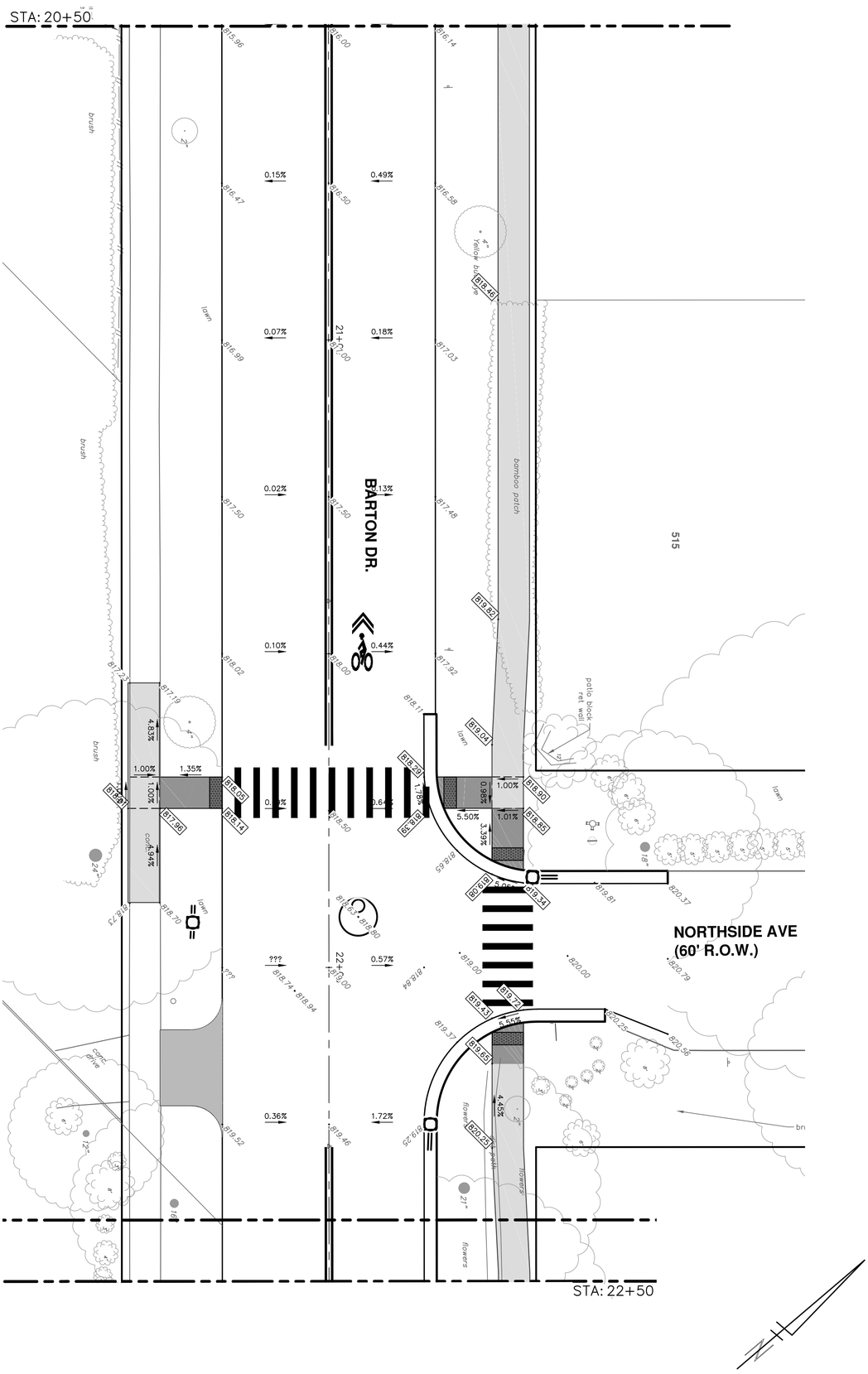

SHEET No. 15 OF 29	CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING	CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 8647 ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org			
SCALE : 1"=10'	SIDEWALK GAP ELIMINATION - 2021				
DRAWING No. 2021007-15	BARTON DRIVE - INTERSECTION GRADES				
	BARTON DR AT NORTHSIDE AVE				

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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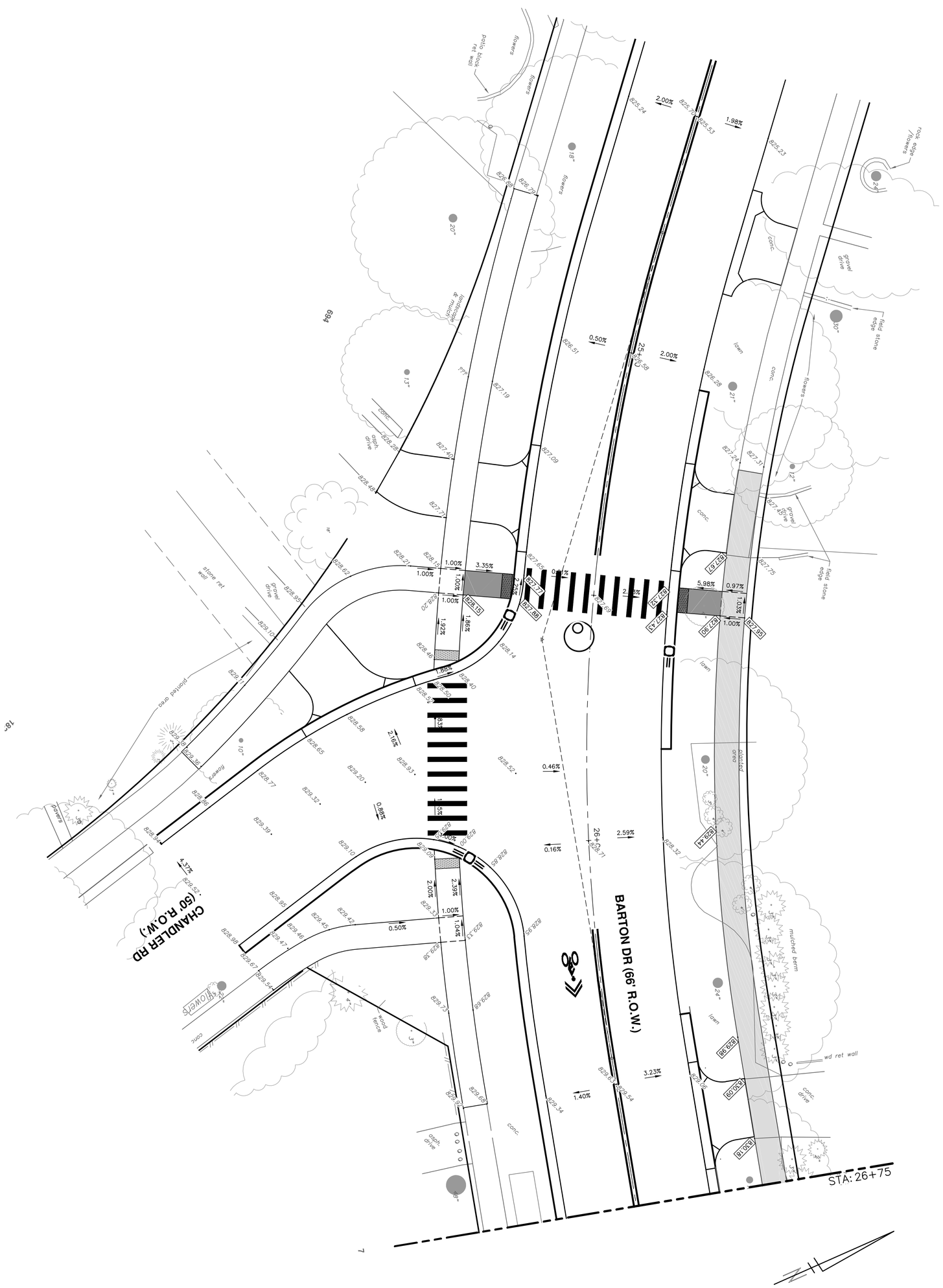

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED	

SHEET No.
16 OF 29

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SCALE : 1"=10'

DRAWING No.
2021007-16

SIDEWALK GAP ELIMINATION - 2021

BARTON DRIVE - INTERSECTION GRADES

BARTON DR AT CHANDLER RD

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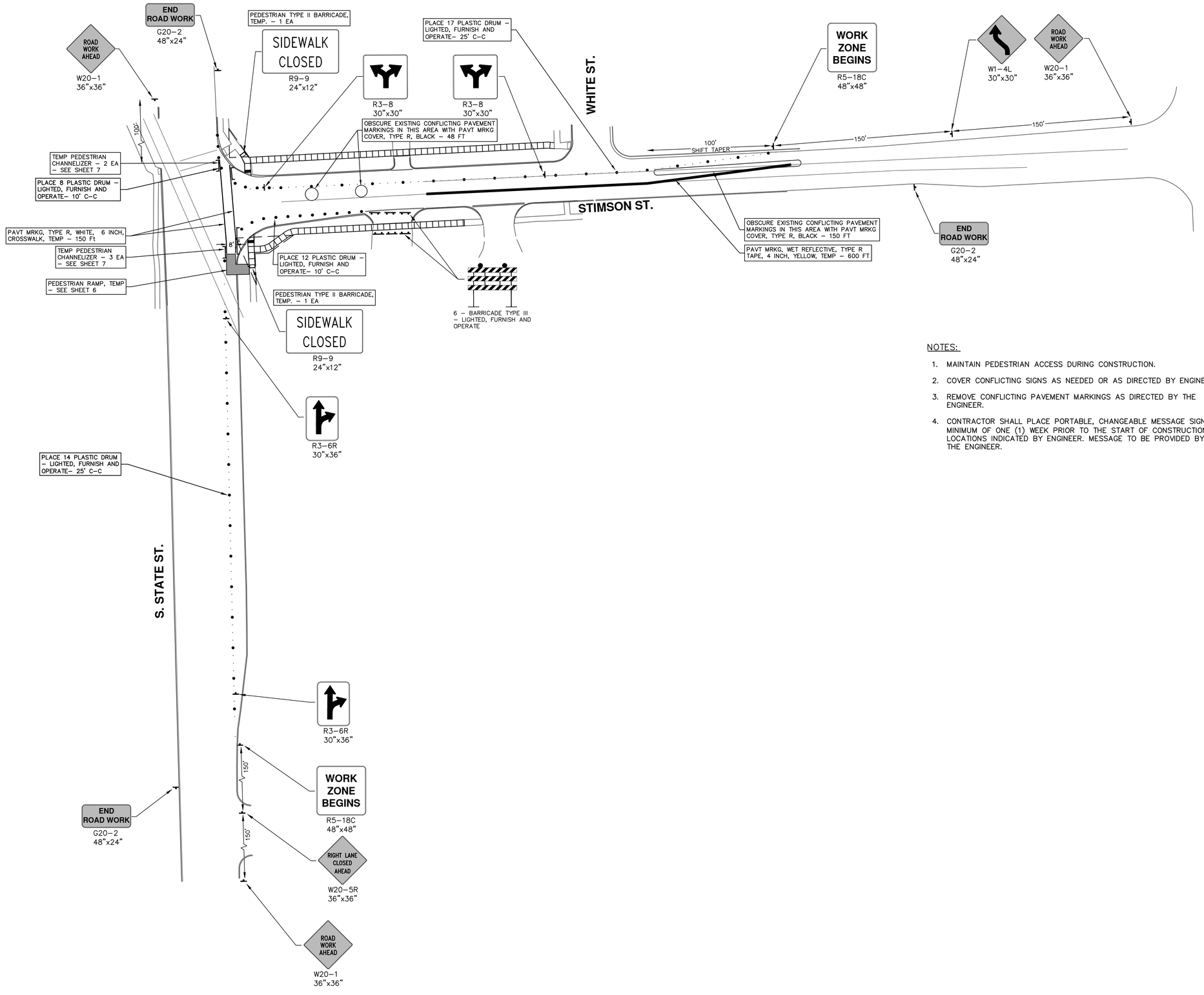

NOTES:

1. MAINTAIN PEDESTRIAN ACCESS DURING CONSTRUCTION.
2. COVER CONFLICTING SIGNS AS NEEDED OR AS DIRECTED BY ENGINEER.
3. REMOVE CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
4. CONTRACTOR SHALL PLACE PORTABLE, CHANGEABLE MESSAGE SIGNS A MINIMUM OF ONE (1) WEEK PRIOR TO THE START OF CONSTRUCTION IN LOCATIONS INDICATED BY ENGINEER. MESSAGE TO BE PROVIDED BY THE ENGINEER.

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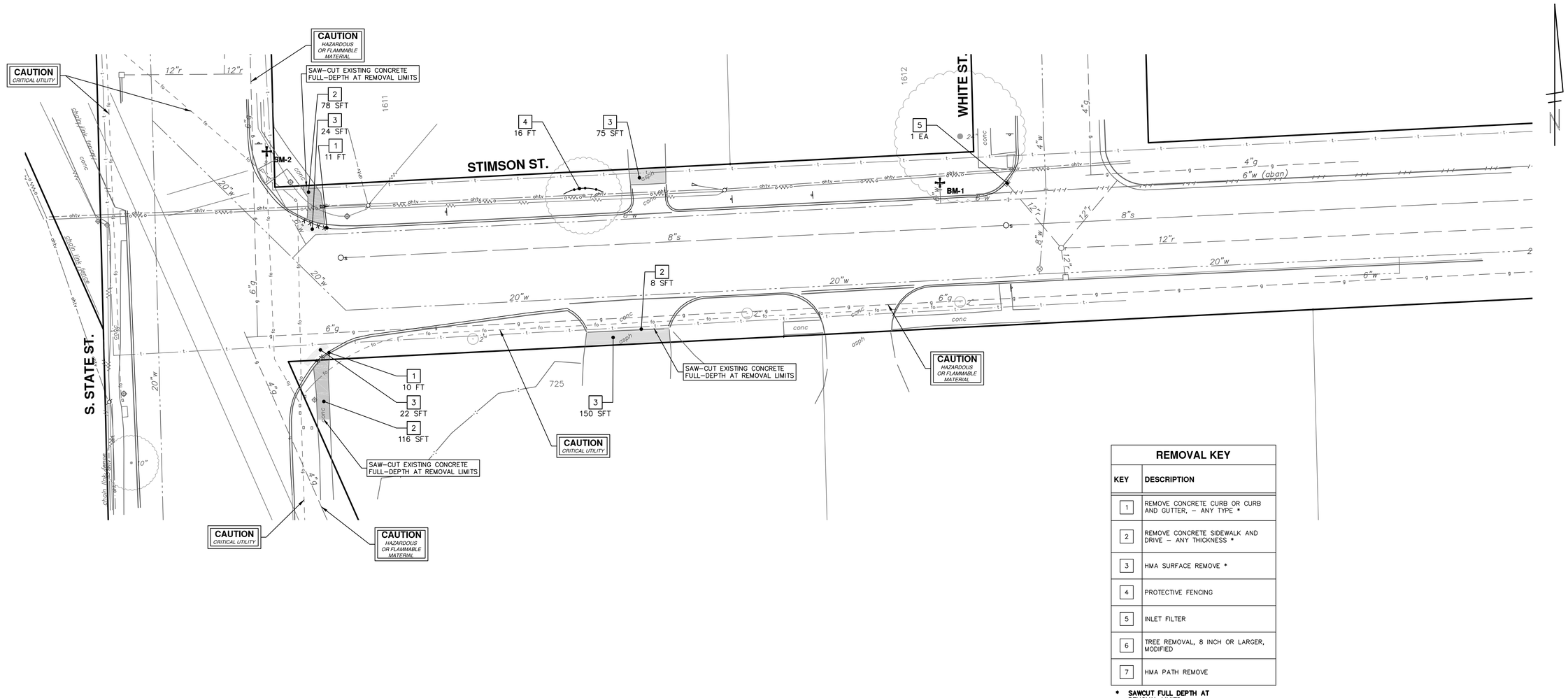
SIDEWALK GAP ELIMINATION - 2021

MAINTENANCE OF TRAFFIC

SCALE PLAN: 1" = 40'

DRAWING No. 2021007-17

SHEET No. 17 OF 29



REMOVAL KEY

KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, – ANY TYPE *
2	REMOVE CONCRETE SIDEWALK AND DRIVE – ANY THICKNESS *
3	HMA SURFACE REMOVE *
4	PROTECTIVE FENCING
5	INLET FILTER
6	TREE REMOVAL, 8 INCH OR LARGER, MODIFIED
7	HMA PATH REMOVE

* **SAWCUT FULL DEPTH AT REMOVAL LIMITS**

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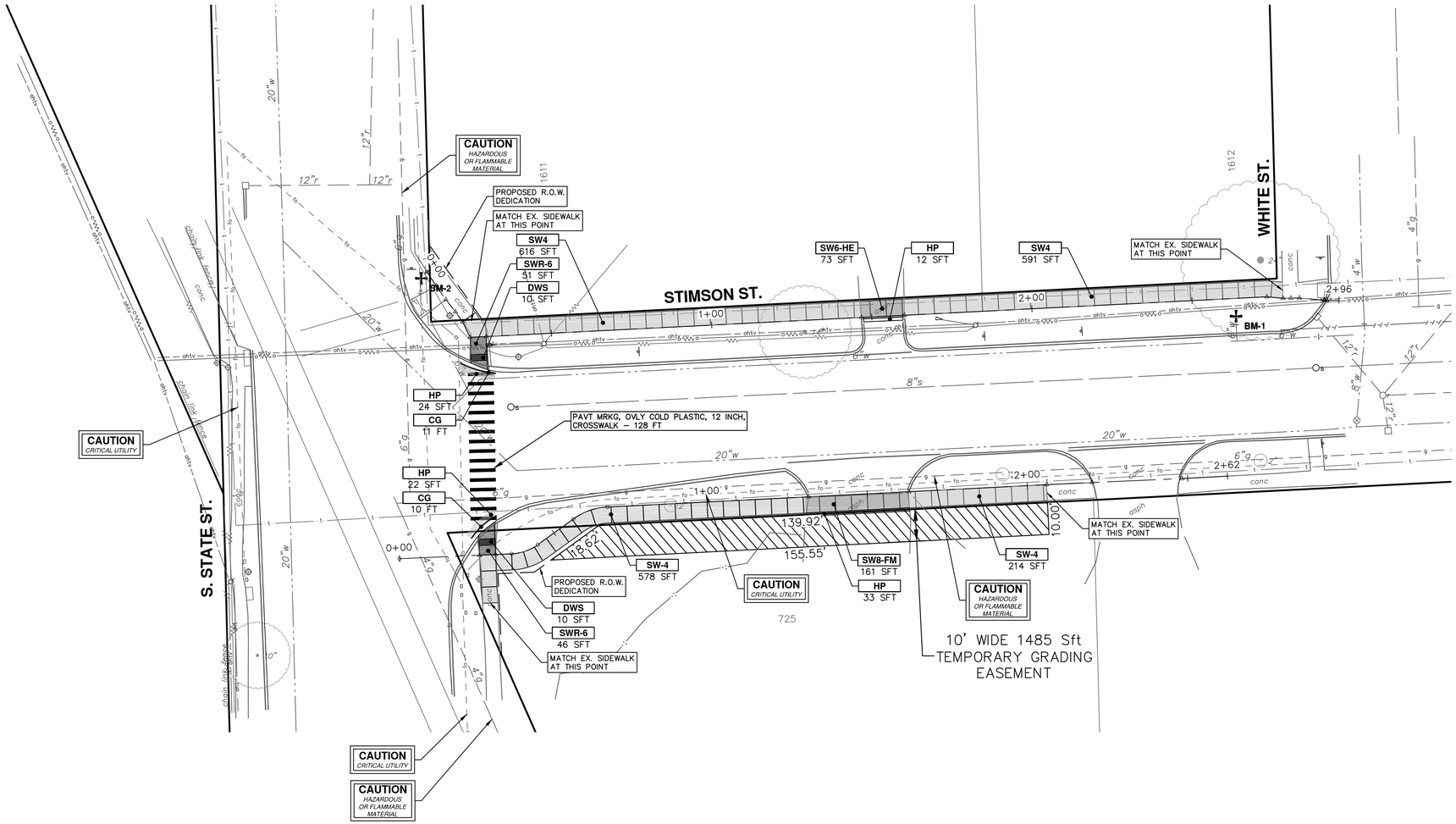
SIDEWALK GAP ELIMINATION - 2021

REMOVALS

SCALE **PLAN: 1" = 20'**

DRAWING No. **2021007-18**

SHEET No. **18 OF 29**



CONSTRUCTION KEY

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HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
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HMA APP	PLACE HMA APPROACH
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DC-6	PLACE CONC, DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
SW6-HE	PLACE SIDEWALK, CONC, 6 INCH, HIGH EARLY
SW8-FM	PLACE SIDEWALK, CONC, 8 INCH, FIBERMESH
SW8-HE	PLACE SIDEWALK, CONC, 8 INCH, HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ADJ	ADJUST STRUCTURE COVER

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SIDEWALK GAP ELIMINATION - 2021

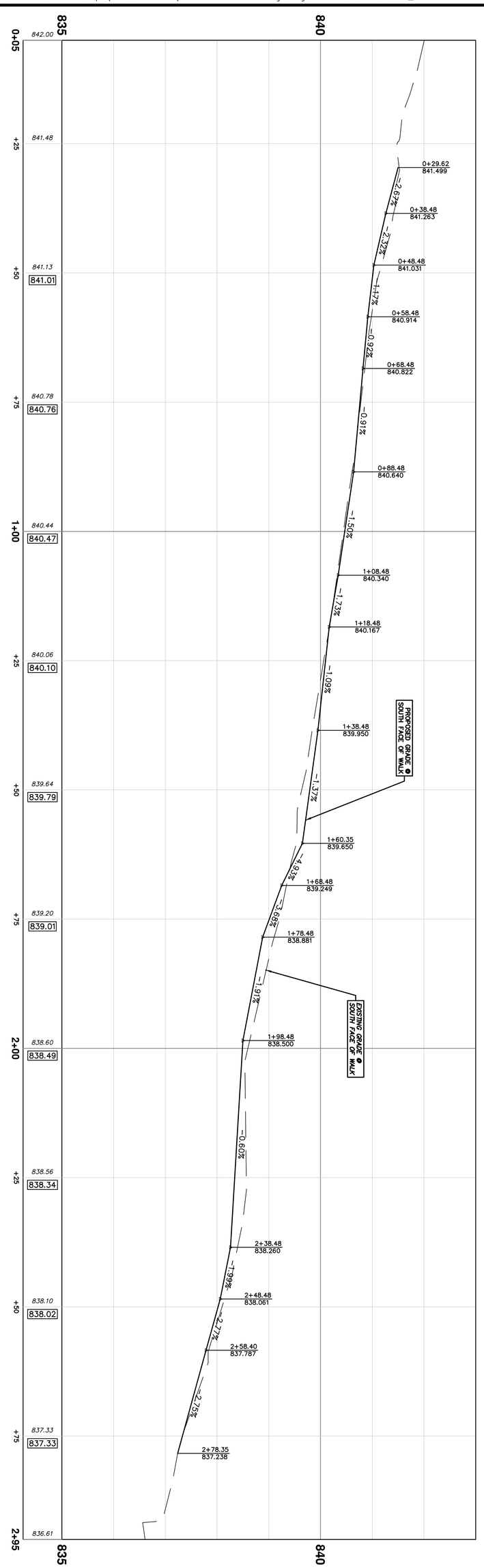
PROPOSED SIDEWALK

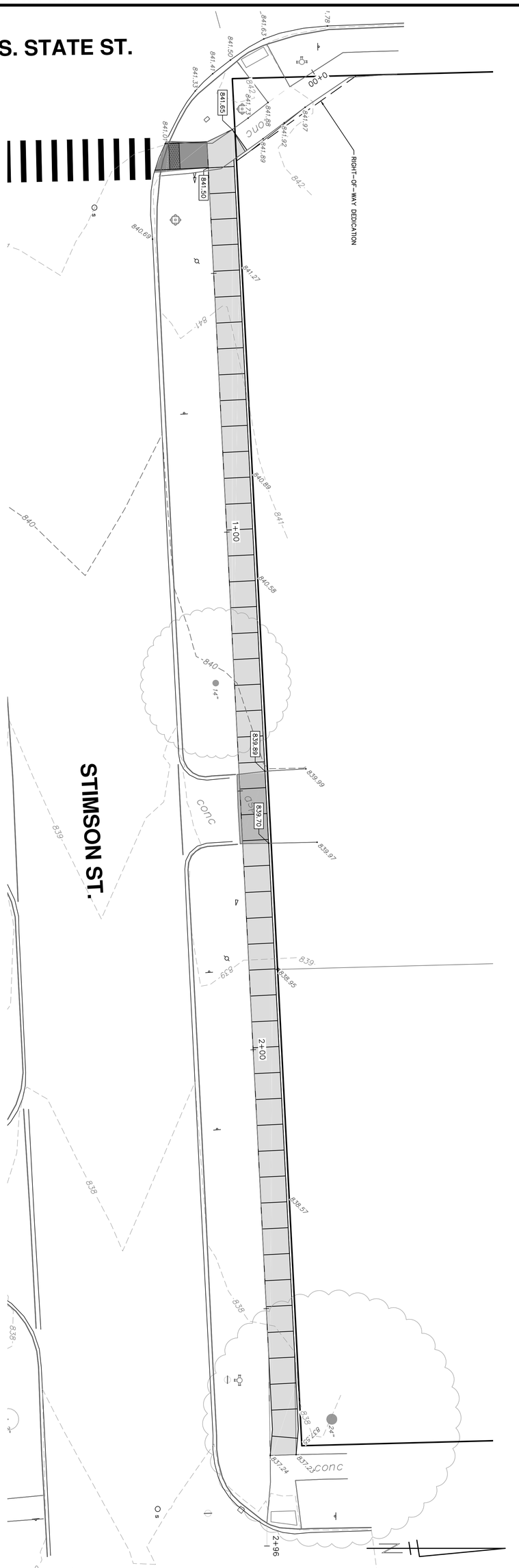
SCALE PLAN: 1" = 20'

DRAWING No. 2021007-19

SHEET No. 19 OF 29

R:\2019037 Stimson Sidewalk Gaps\Plan Production\2019037 Stimson SW.dwg Dwg Created: 15-Jun-21 - _a2 standard bw.stb - Plot Date: 16-Jun-21





SHEET No. 20 OF 29

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE PLAN: 1" = 10'

DRAWING No. 2021007-20

SIDEWALK GAP ELIMINATION - 2021

STIMSON STREET

PROPOSED SIDEWALK GRADES NORTH

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	6-15-2021	DF	TB
00	ISSUED FOR BID	6-3-2021	CC,DF,KB	TB

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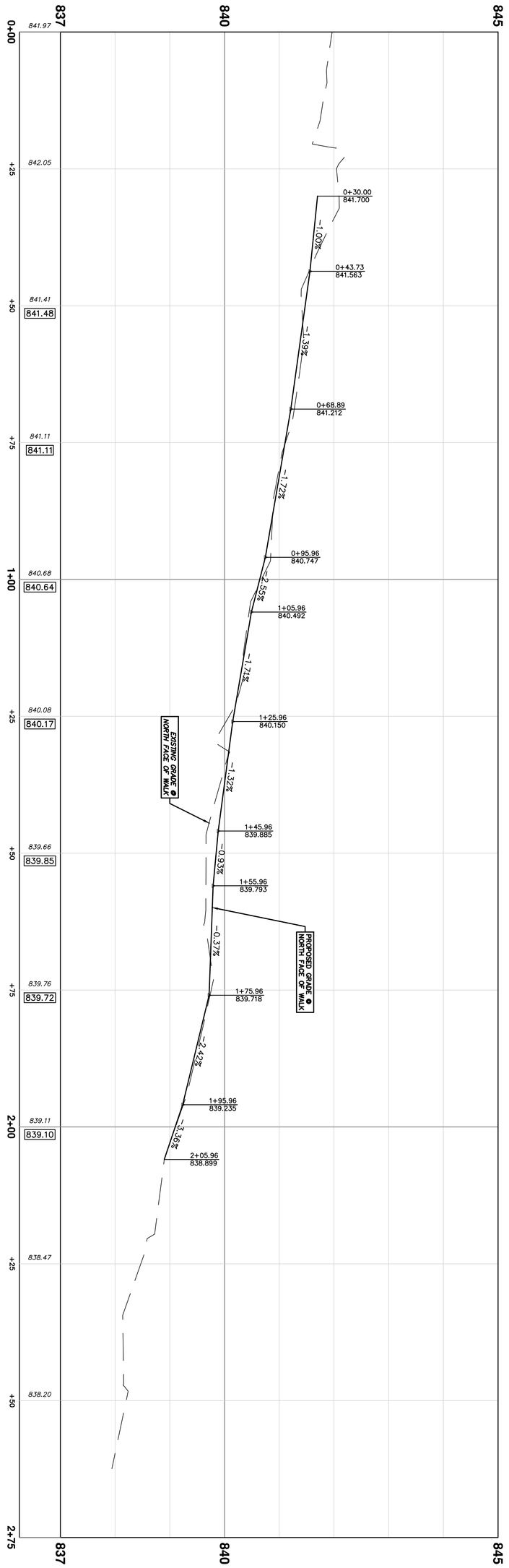

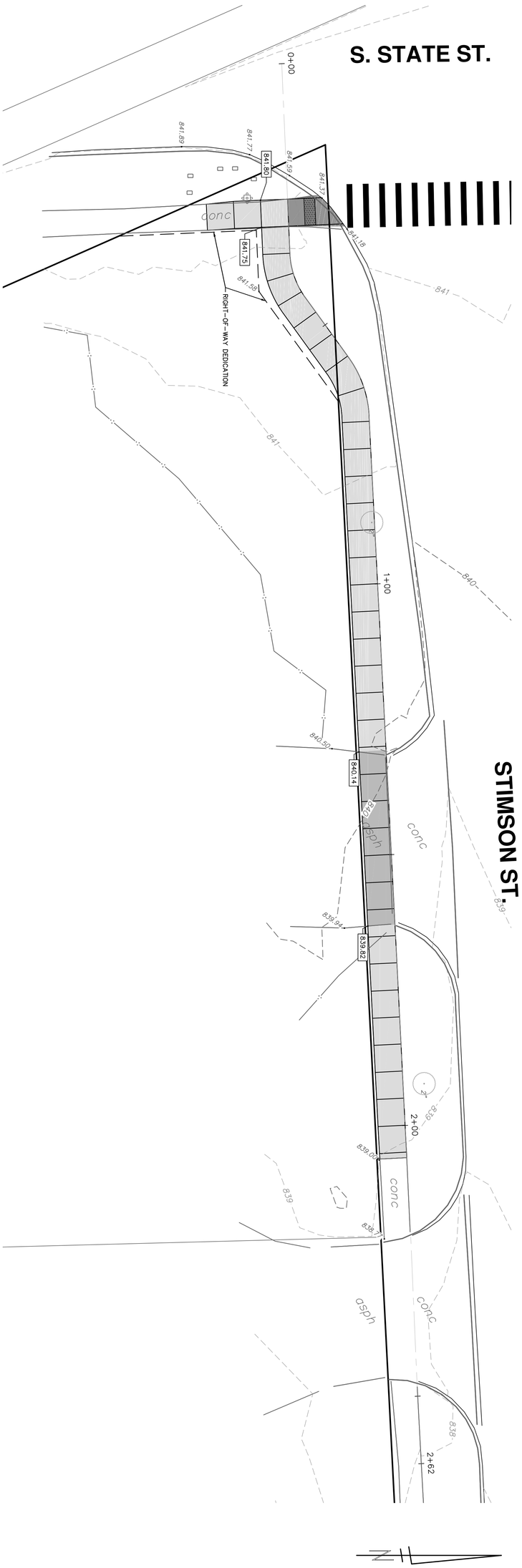

SHEET No.	CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING		
21 OF 29	SCALE PLAN: 1" = 10'	SIDEWALK GAP ELIMINATION - 2021	CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET P.O. BOX 8647 ANN ARBOR, MI 48107-8647 734-794-6410 www.a2gov.org
	DRAWING No. 2021007-21	STIMSON STREET	
		PROPOSED SIDEWALK GRADES SOUTH	

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	6-15-2021	DF	TB
00	ISSUED FOR BID	6-3-2021	CC,DF,KB	TB

Know what's below. Call before you dig.

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00	ISSUED FOR BID	6-3-2021	CC,DF,KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SIDEWALK GAP ELIMINATION - 2021

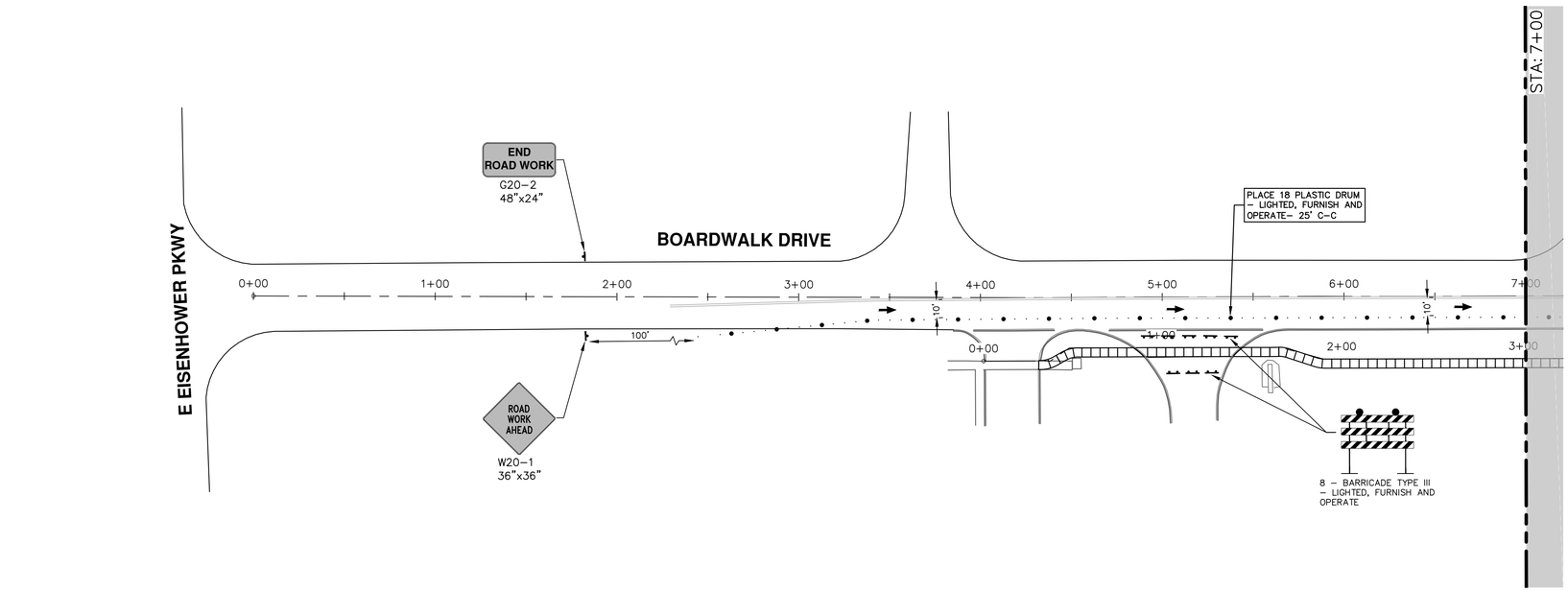
STIMSON STREET

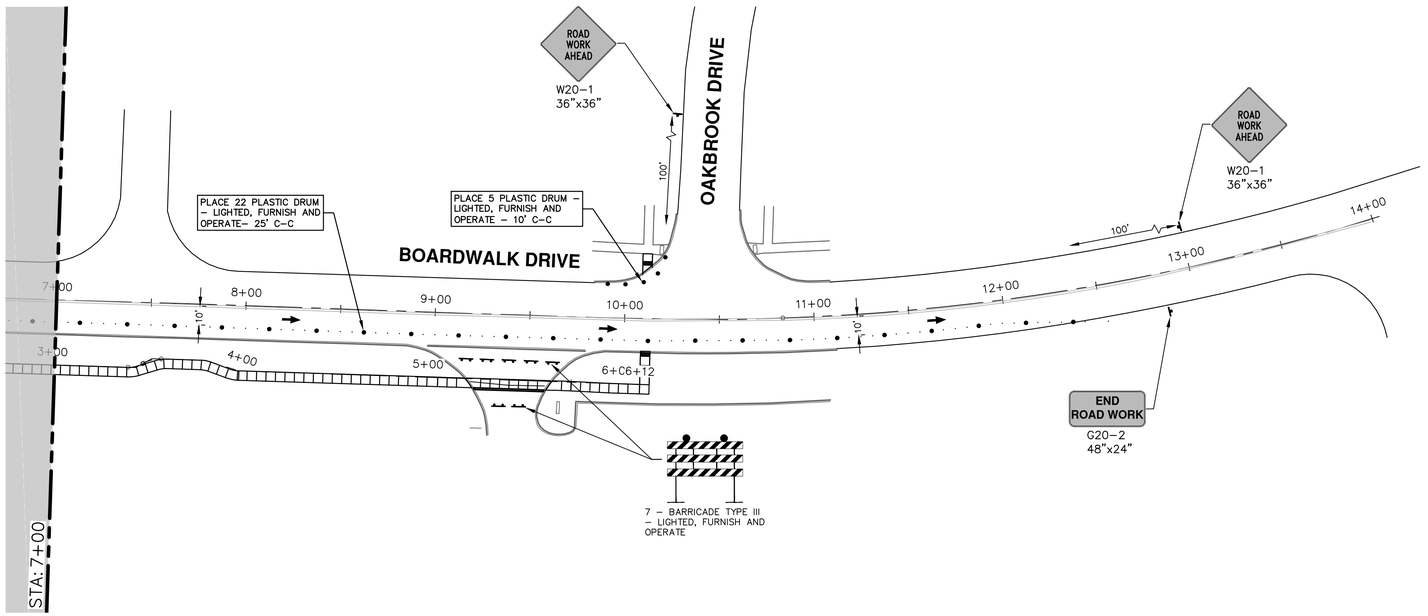
RAMP DETAILS

SCALE PLAN: 1" = 5'

DRAWING No.
2021007-22

SHEET No.
22 OF 29





NOTES:

1. UTILIZE PLASTIC DRUMS AND PROTECTIVE FENCING WITHIN WORK ZONE TO DELINEATE OPEN TRENCHES AS DIRECTED BY ENGINEER.
2. MAINTAIN PEDESTRIAN ACCESS DURING CONSTRUCTION.
3. COVER CONFLICTING SIGNS AS NEEDED OR AS DIRECTED BY ENGINEER.
4. CONTRACTOR SHALL PLACE PORTABLE, CHANGEABLE MESSAGE SIGNS A MINIMUM OF ONE (1) WEEK PRIOR TO THE START OF CONSTRUCTION IN LOCATIONS INDICATED BY ENGINEER. MESSAGE TO BE PROVIDED BY THE ENGINEER.

811 Know what's **below.** **Call before you dig.**

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	ISSUED FOR BID	6-3-2021	CC,DF,KB	TB
01	ADDENDUM #1	6-15-2021	DF	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SIDEWALK GAP ELIMINATION - 2021

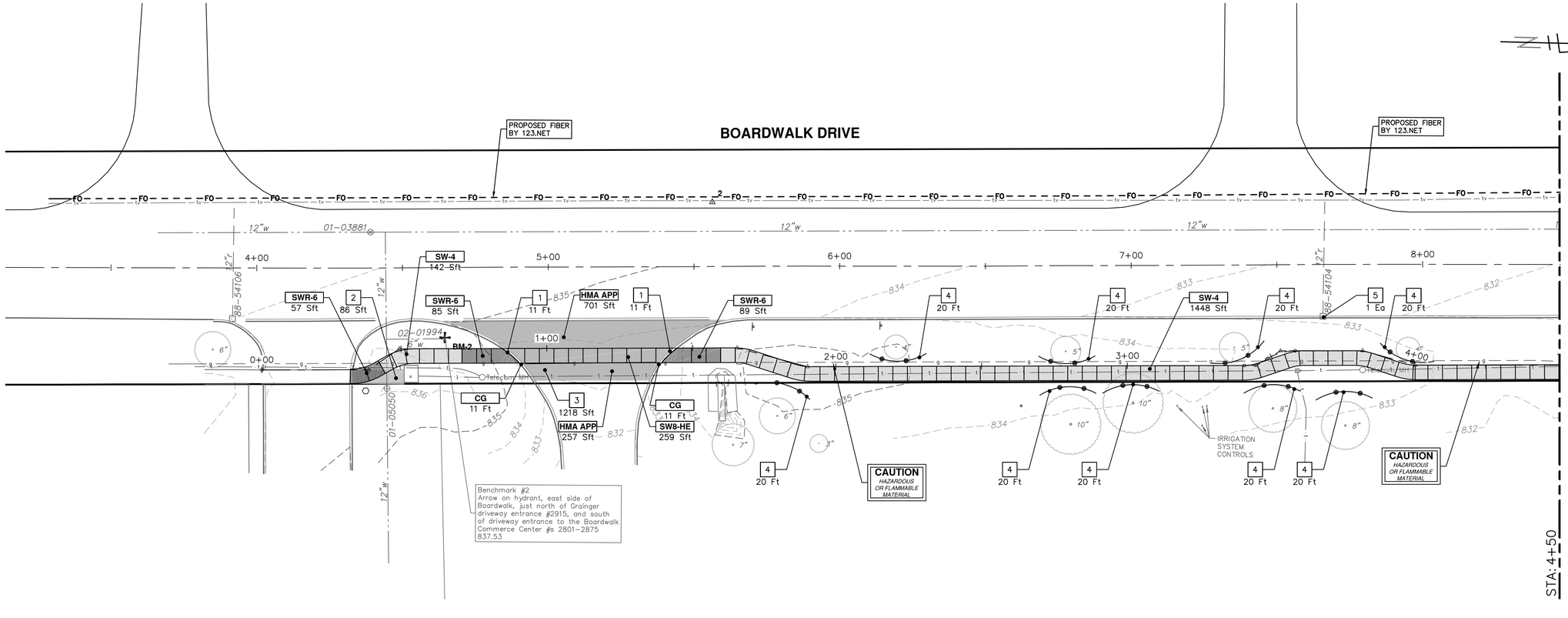
BOARDWALK DRIVE

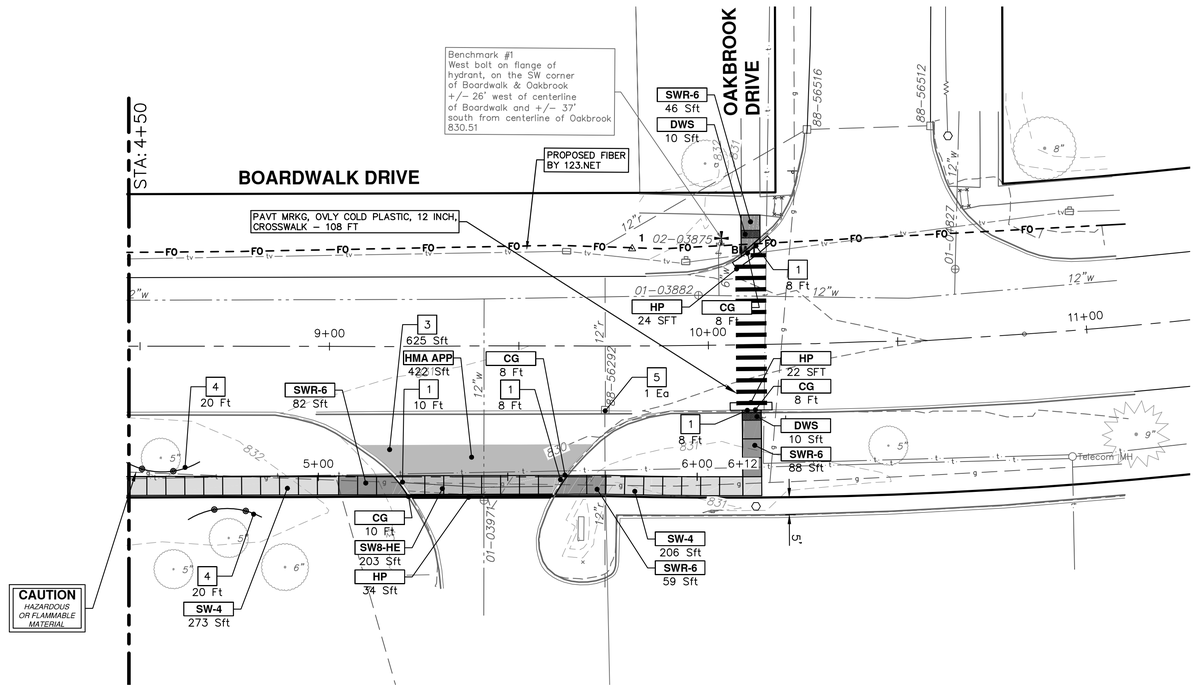
MAINTENANCE OF TRAFFIC

SCALE : 1" = 40'

DRAWING No. **2021007-23**

SHEET No. **23 OF 29**





REMOVAL KEY

KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, - ANY TYPE *
2	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS *
3	HMA SURFACE REMOVE *
4	PROTECTIVE FENCING
5	INLET FILTER
6	TREE REMOVAL, 8 INCH OR LARGER, MODIFIED
7	HMA PATH REMOVE

* SAWCUT FULL DEPTH AT REMOVAL LIMITS

CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HP	HAND PATCHING
HMA APP	PLACE HMA APPROACH
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DC-6	PLACE CONC, DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
SW6-HE	PLACE SIDEWALK, CONC, 6 INCH, HIGH EARLY
SW8-FM	PLACE SIDEWALK, CONC, 8 INCH, FIBERMESH
SW8-HE	PLACE SIDEWALK, CONC, 8 INCH, HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ADJ	ADJUST STRUCTURE COVER

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	6-15-2021	DF	TB
00	ISSUED FOR BID	6-3-2021	CC,DF,KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SIDEWALK GAP ELIMINATION - 2021

BOARDWALK DRIVE

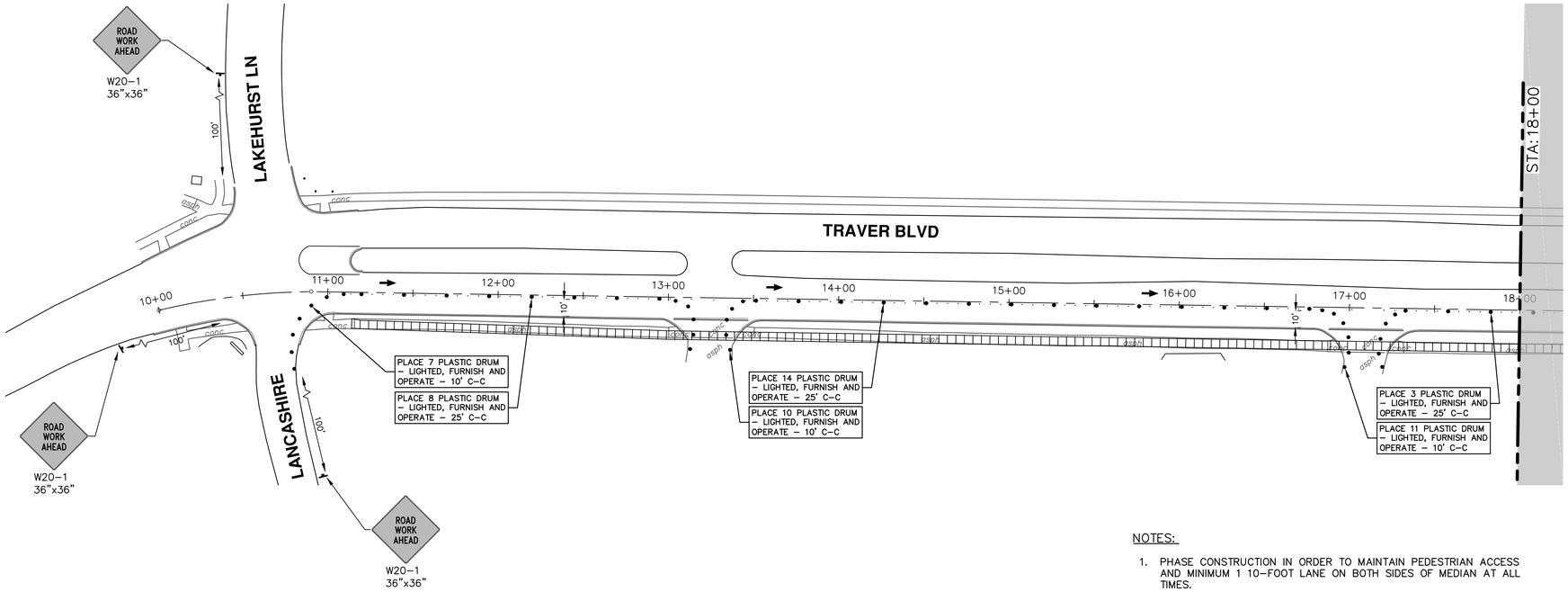
REMOVALS AND PROPOSED SIDEWALK

SCALE : 1" = 20'

DRAWING No. 2021007-24

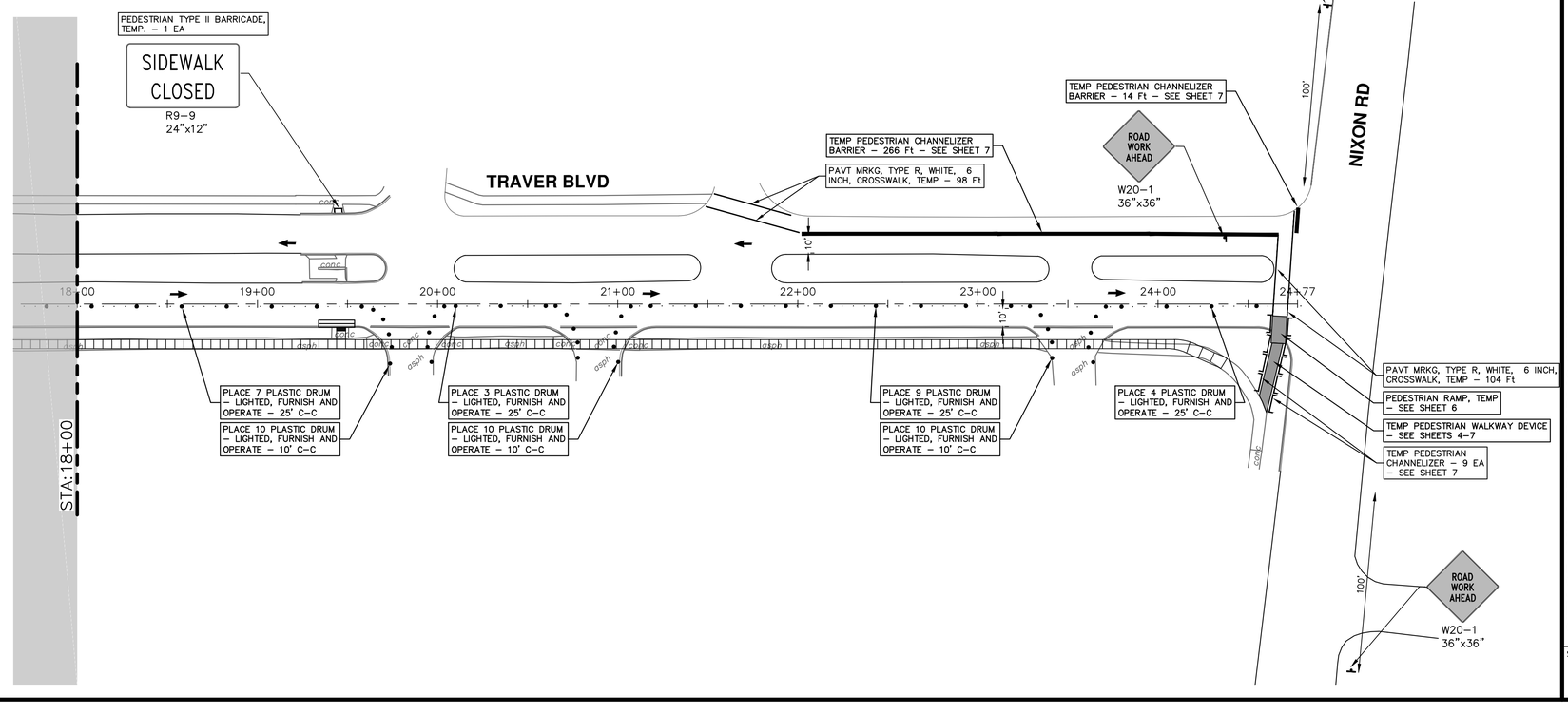
SHEET No. 24 OF 29

R:\2021007 Sidewalk Gaps\Plan Production\2021007Prwalk Boardwalk.dwg Dwg Created: 15-Jun-21 - _a2 standard bw.stb - Plot Date: 16-Jun-21



NOTES:

1. PHASE CONSTRUCTION IN ORDER TO MAINTAIN PEDESTRIAN ACCESS AND MINIMUM 1 10–FOOT LANE ON BOTH SIDES OF MEDIAN AT ALL TIMES.
2. COVER CONFLICTING SIGNS AS NEEDED OR AS DIRECTED BY ENGINEER.
3. REMOVE CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
4. CONTRACTOR SHALL PLACE PORTABLE, CHANGEABLE MESSAGE SIGNS A MINIMUM OF ONE (1) WEEK PRIOR TO THE START OF CONSTRUCTION IN LOCATIONS INDICATED BY ENGINEER. MESSAGE TO BE PROVIDED BY THE ENGINEER.



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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	ISSUED FOR BID	6–3–2021	CC,DF,KB	TB
01	ADDENDUM #1	6–15–2021	DF	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SIDEWALK GAP ELIMINATION - 2021

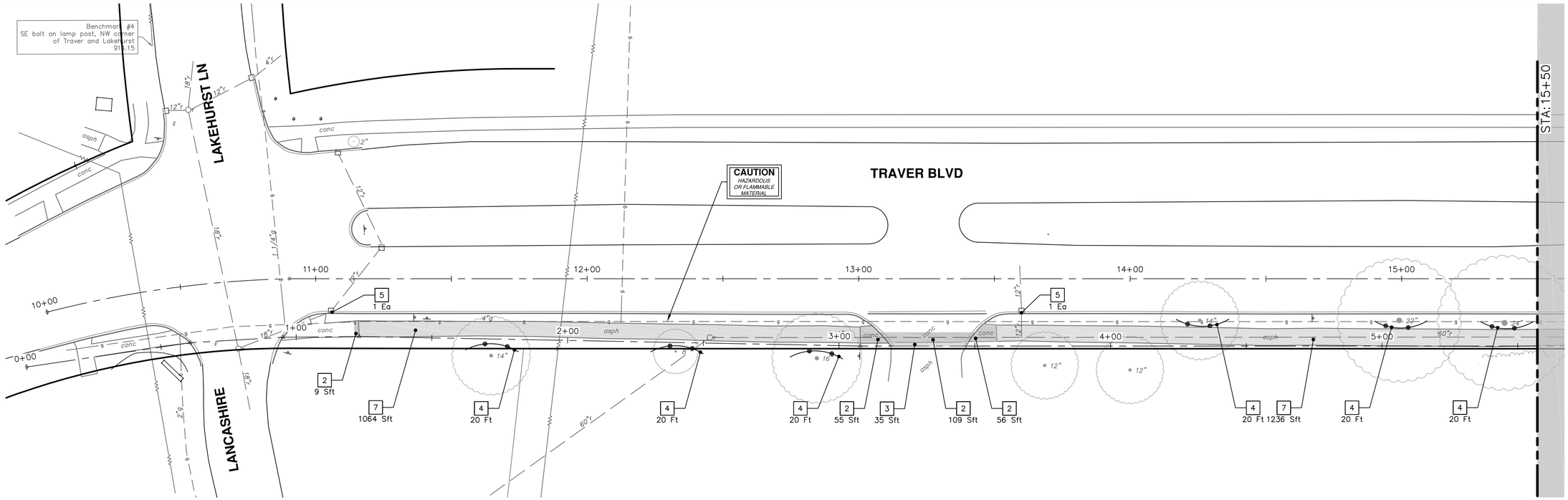
TRAVER BLVD

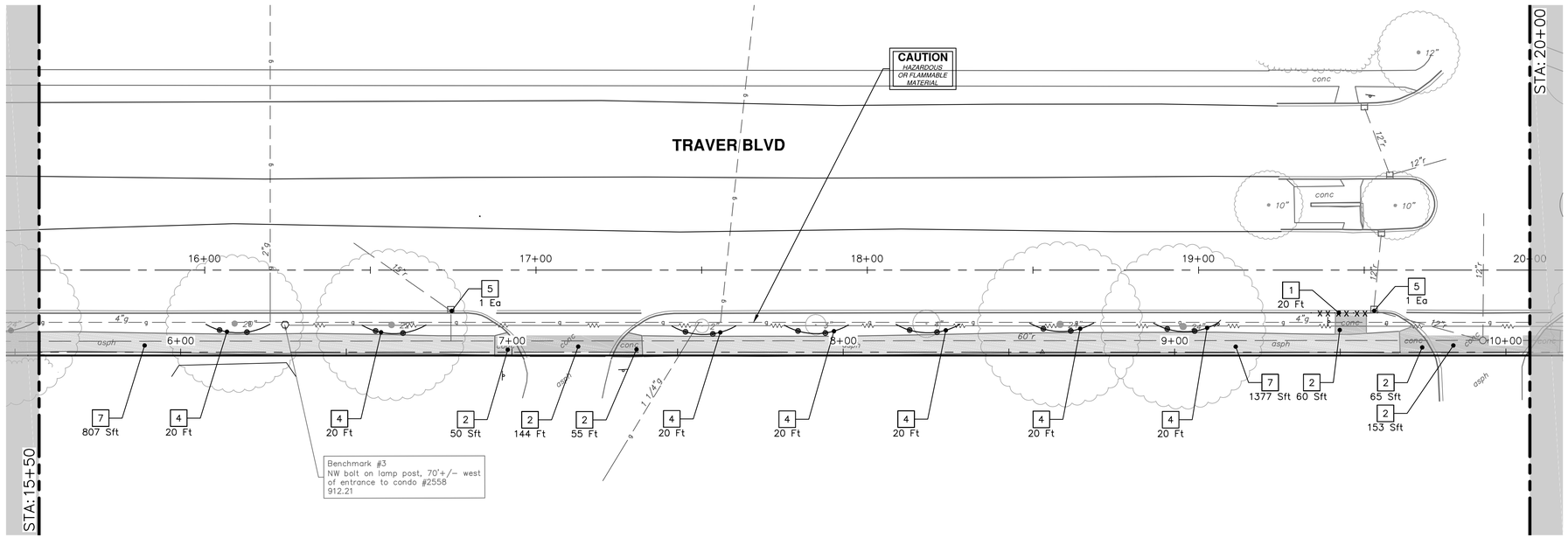
MAINTENANCE OF TRAFFIC

SCALE : 1" = 40'

DRAWING No. 2021007-25

SHEET No. 25 OF 29





REMOVAL KEY

KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, – ANY TYPE *
2	REMOVE CONCRETE SIDEWALK AND DRIVE – ANY THICKNESS *
3	HMA SURFACE REMOVE *
4	PROTECTIVE FENCING
5	INLET FILTER
6	TREE REMOVAL, 8 INCH OR LARGER, MODIFIED
7	HMA PATH REMOVE

* SAWCUT FULL DEPTH AT REMOVAL LIMITS

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	ADDENDUM #1	6–15–2021	DF	TB
00	ISSUED FOR BID	6–3–2021	CC,DF,KB	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SIDEWALK GAP ELIMINATION - 2021

TRAVER BLVD

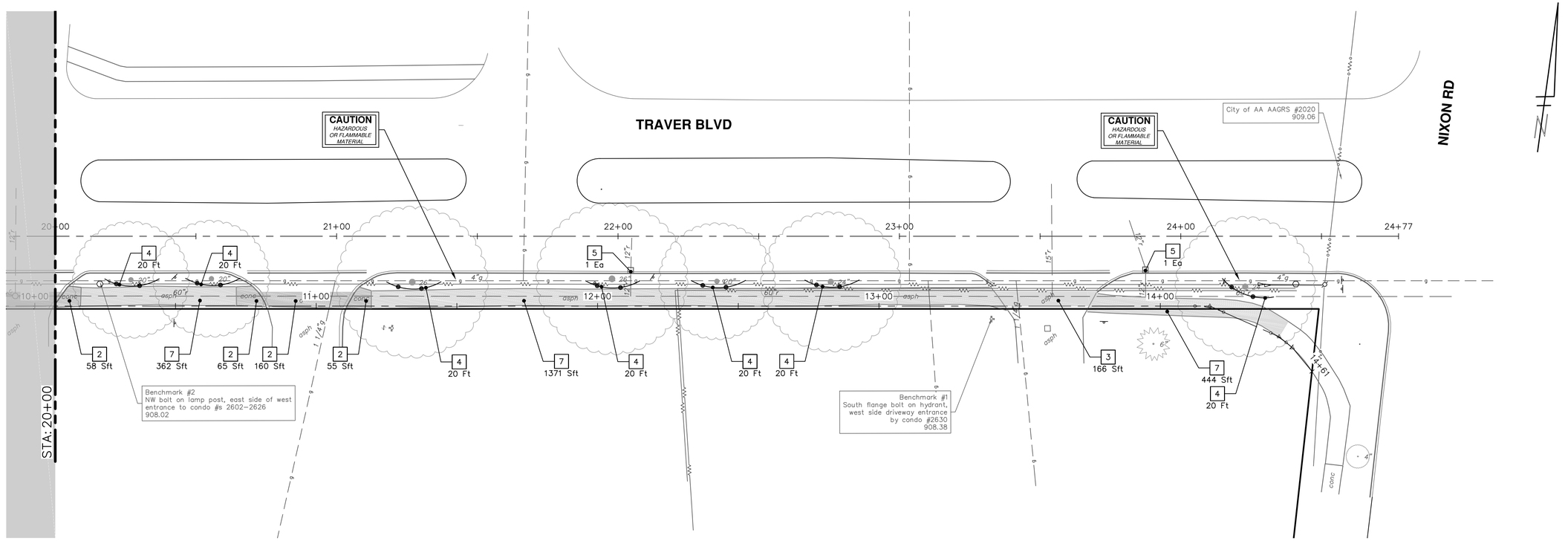
REMOVALS

SCALE : 1" = 20'

DRAWING No. 2021007-26

SHEET No. 26 OF 29

R:\2021007 Sidewalk Gaps\Plan Production\2021007Rem Traver.dwg Dwg Created: 7–Jun–21 – _a2 standard bw.stb – Plot Date: 16–Jun–21



REMOVAL KEY

KEY	DESCRIPTION
1	REMOVE CONCRETE CURB OR CURB AND GUTTER, – ANY TYPE *
2	REMOVE CONCRETE SIDEWALK AND DRIVE – ANY THICKNESS *
3	HMA SURFACE REMOVE *
4	PROTECTIVE FENCING
5	INLET FILTER
6	TREE REMOVAL, 8 INCH OR LARGER, MODIFIED
7	HMA PATH REMOVE

* **SAWCUT FULL DEPTH AT REMOVAL LIMITS**

811 Know what's **below.** **Call before you dig.**

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	ISSUED FOR BID	6-3-2021	CC,DF,KB	TB
01	ADDENDUM #1	6-15-2021	DF	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SIDEWALK GAP ELIMINATION - 2021

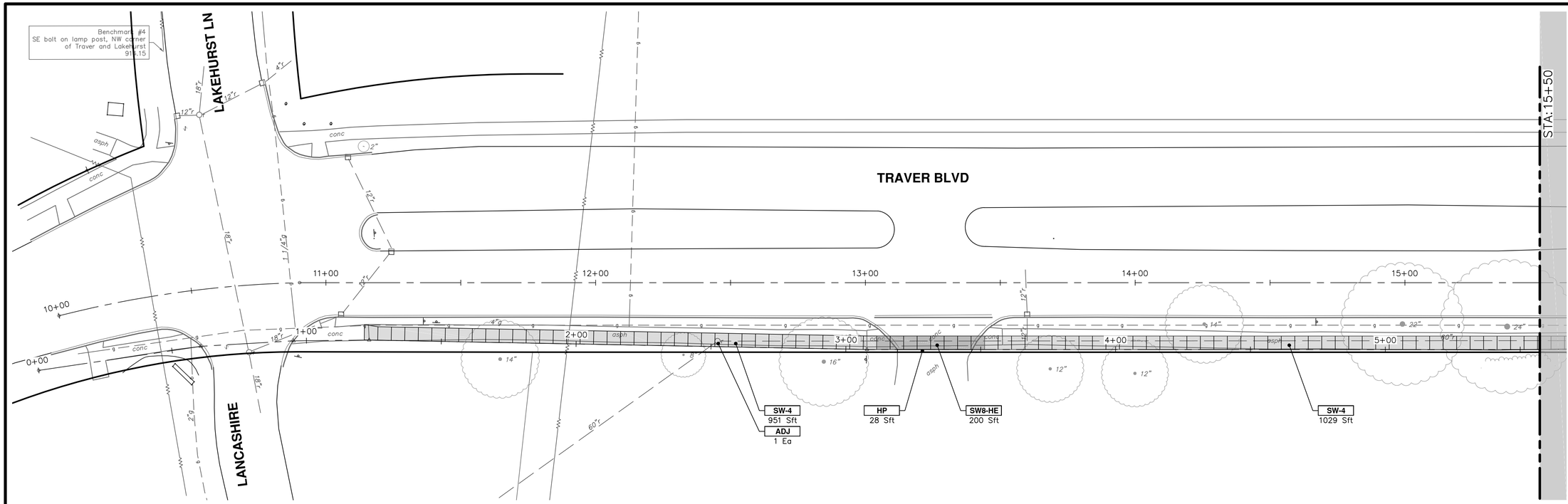
TRAVER BLVD

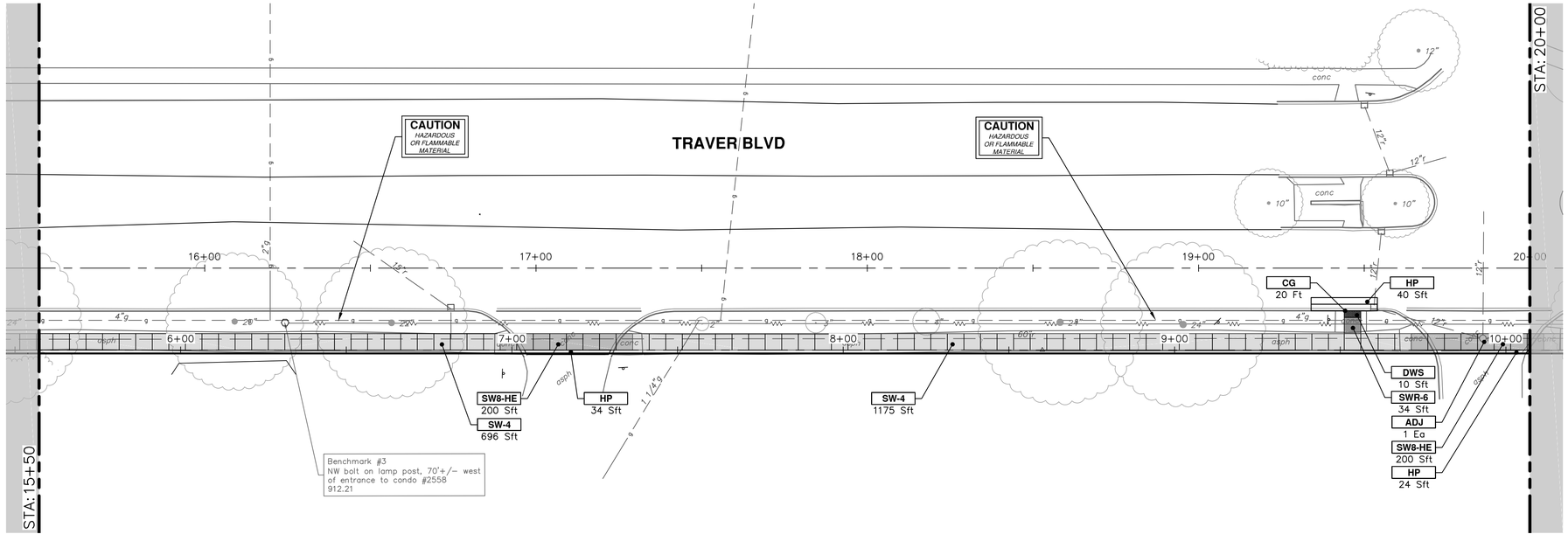
REMOVALS

SCALE : 1" = 20'

DRAWING No. 2021007-27

SHEET No. 27 OF 29





CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HP	HAND PATCHING
HMA APP	PLACE HMA APPROACH
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DC-6	PLACE CONC, DRIVE APPROACH, NON-REINFORCED, P-NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
SW6-HE	PLACE SIDEWALK, CONC, 6 INCH, HIGH EARLY
SW8-FM	PLACE SIDEWALK, CONC, 8 INCH, FIBERMESH
SW8-HE	PLACE SIDEWALK, CONC, 8 INCH, HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ADJ	ADJUST STRUCTURE COVER

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	ISSUED FOR BID	6-3-2021	CC,DF,KB	TB
01	ADDENDUM #1	6-15-2021	DF	TB

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SIDEWALK GAP ELIMINATION - 2021

TRAVER BLVD

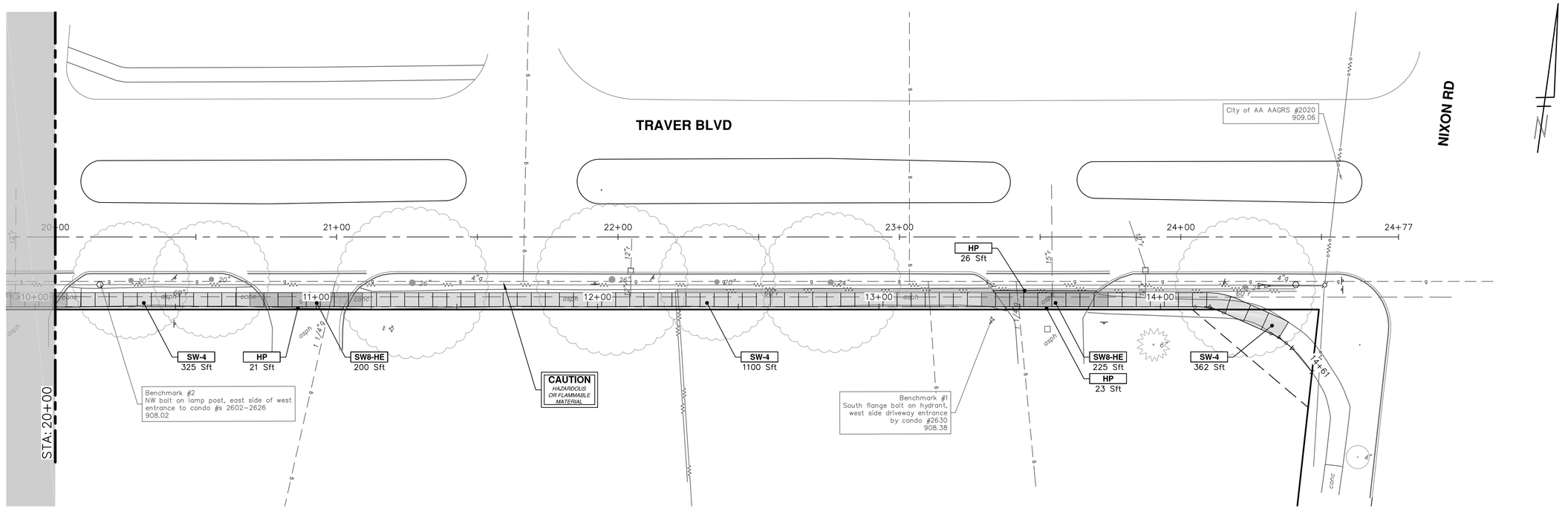
PROPOSED SIDEWALK

SCALE : 1" = 20'

DRAWING No. 2021007-28

SHEET No. 28 OF 29

R:\2021007 Sidewalk Gaps\Plan Production\2021007Prwalk Traver.dwg Dwg Created: 15-Jun-21 — Plot Date: 16-Jun-21 — _a2 standard bw.stb



CONSTRUCTION KEY

KEY	DESCRIPTION
HMA	PLACE HMA, LVSP. PLACE MATERIAL IN LIFTS ACCORDING TO THE TYPICAL SECTION AND AS DIRECTED BY THE ENGINEER.
HP	HAND PATCHING
HMA APP	PLACE HMA APPROACH
CG	PLACE CURB AND GUTTER, CONC, F4, SPECIAL
DC-6	PLACE CONC, DRIVE APPROACH, NON–REINFORCED, P–NC, 6 INCH. PLACE AND COMPACT 6 INCH SUBBASE, CIP, CLASS II GRANULAR MATERIAL, MODIFIED.
SW-4	PLACE SIDEWALK, CONC, 4 INCH, MODIFIED
SWR-6	PLACE SIDEWALK, SIDEWALK RAMP, CONC, 6 INCH, MODIFIED
SW6-HE	PLACE SIDEWALK, CONC, 6 INCH, HIGH EARLY
SW8-FM	PLACE SIDEWALK, CONC, 8 INCH, FIBERMESH
SW8-HE	PLACE SIDEWALK, CONC, 8 INCH, HIGH EARLY
DWS	DETECTABLE WARNING, CAST IN PLACE
ADJ	ADJUST STRUCTURE COVER

Know what's **below.** **Call before you dig.**

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	ISSUED FOR BID	6–3–2021	CC,DF,KB	TB
01	ADDENDUM #1	6–15–2021	DF	TB

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SIDEWALK GAP ELIMINATION - 2021

TRAVER BLVD

PROPOSED SIDEWALK

SCALE : 1" = 20'

DRAWING No.
2021007-29

SHEET No.
29 OF 29

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