

CITY OF BROOK PARK, OHIO

ORDINANCE NO. 11503-2025

INTRODUCED BY: MAYOR ORCUTT

AN ORDINANCE AMENDING ORDINANCE 11493-2025, WHICH AUTHORIZED THE MAYOR TO ENTER INTO A COOPERATION AGREEMENT BY AND BETWEEN CUYAHOGA COUNTY, OHIO, THE NORTHEAST OHIO REGIONAL SEWER DISTRICT, THE CITY OF BROOK PARK AND THE CITY OF MIDDLEBURG HEIGHTS, FOR THE CONSTRUCTION OF THE SHELDON ROAD PROFILE RAISING & BRIDGE REPLACEMENT PROJECT, AND DECLARING AN EMERGENCY

WHEREAS, due to funding change issues, the cooperation agreement by and between Cuyahoga County, Ohio, the Northeast Ohio Regional Sewer District, the City of Brook Park and the City of Middleburg Heights, for the construction of the Sheldon Road Profile Raising & Bridge Replacement Project; and

WHEREAS, the cooperation agreement has been revised to reflect that the NEORSO, instead of Cuyahoga County, will bid, construct and perform construction management for the Sheldon Road project.

NOW, THEREFORE BE IT ORDAINED by the Council of the City of Brook Park, State of Ohio, that:

SECTION 1: Ordinance No. 11493-2025, passed September 16, 2025 is hereby expressly repealed.

SECTION 2: The mayor is hereby authorized to enter into the revised agreement for the construction of the Sheldon Road Profile Raising & Bridge Replacement Project, which is attached hereto and incorporated herein as Exhibit "1".

SECTION 3: The money needed to complete the aforesaid project shall be paid from funds to be determined and theretofore appropriated or to be appropriated in the 2026 General Budget and/or the Brook Park Community Cost-Share Funds (Regional Storm water Management Program).

SECTION 4: It is found and determined that all formal actions of this Council concerning and relating to the adoption of this Ordinance were adopted in an open meeting of this Council, and that all deliberations of this Council and of any of its committees that resulted in such formal action, were in meetings open to the

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public, in compliance with all legal requirements including Section 121.22 of the Ohio Revised Code.

SECTION 5: This Ordinance is hereby declared to be an emergency measure necessary for the immediate preservation of the public peace, health, safety of said City, and for the further reason that City Council deems it necessary to amend Ordinance 11493-2025 for the construction of the Sheldon Road Profile Raising & Bridge Replacement Project, therefore, provided this Ordinance receives the affirmative vote of at least five (5) members elected to Council, it shall take effect and be in force immediately from and after its passage and approval by the Mayor; otherwise, from and after the earliest period allowed by law.

PASSED: October 21, 2025

Richard Kelly
PRESIDENT OF COUNCIL

ATTEST: *Carol Johnson*
CLERK OF COUNCIL

APPROVED: *Ed H. Smith*
MAYOR

10/29/25
DATE

CERTIFICATE

Carol Johnson, Clerk of Council, of the City of Brook Park, Ohio, do hereby certify that the foregoing is a true and accurate copy of Ordinance / Resolution No. 11503-2025 passed on the 21 day of October 2025 by said council.

Carol Johnson
Clerk of Council

	Yea	Nay
Troyer	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Mencini	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Roberts	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Scott	<input checked="" type="checkbox"/>	<input type="checkbox"/>
McCorkle	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Poindexter	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Dufour	<input checked="" type="checkbox"/>	<input type="checkbox"/>

HEREBY APPROVE THE WITHIN INSTRUMENT AS TO LEGAL FORM AND CORRECTNESS.

[Signature]
DIRECTOR OF LAW

**COOPERATION AGREEMENT
BY AND BETWEEN
COUNTY OF CUYAHOGA, OHIO,
NORTHEAST OHIO REGIONAL SEWER DISTRICT,
CITY OF BROOK PARK
AND
CITY OF MIDDLEBURG HEIGHTS
FOR
THE CONSTRUCTION OF THE SHELDON ROAD PROFILE RAISING & BRIDGE
REPLACEMENT PROJECT
(ALSO KNOWN AS "ABRAM CREEK FLOOD REDUCTION PROJECT")**



This Cooperation Agreement ("Agreement") is entered into as of this _____ day of _____, 2025 ("Effective Date"), by and between the County of Cuyahoga, a body corporate and politic and a political subdivision of the State of Ohio organized and existing under the Charter of Cuyahoga County effective January 1, 2010, as the same may have been amended, modified, and supplemented to the effective date hereof (the "County"), acting pursuant to Resolution No. _____, adopted by Cuyahoga County Council on _____, 2022 (attached as Exhibit "A"), the Northeast Ohio Regional Sewer District ("District"), a regional sewer district organized and existing as a political subdivision under Chapter 6119 of the Ohio Revised Code, pursuant to the authority of its Board of Trustees Resolution No. 197-25, adopted on September 4, 2025 (attached as Exhibit "B"), the City of Brook Park ("Brook Park"), a Charter Municipality of the State of Ohio, acting pursuant to Ordinance No. _____, adopted by its City Council on _____, 202 (attached hereto as Exhibit "C"), and the City of Middleburg Heights ("Middleburg Heights"), a Charter Municipality of the State of Ohio, acting pursuant to Ordinance No. _____, adopted by its City Council on _____, 202 (attached hereto as Exhibit "D"). The County, the District, Brook Park, and Middleburg Heights are referenced in this Agreement individually as a "Party" and collectively as "Parties." Brook Park and Middleburg Heights are also referenced in this Agreement collectively as "Cities."

RECITALS

WHEREAS, the Parties desire to perform the Sheldon Road Profile Raising & Bridge Replacement Design Project, which includes the expansion of the Sheldon Road Bridge (the "Bridge") opening to convey the 100-year storm event and raising the profile and replacement of Sheldon Road to allow for acceptable passable conditions ("the Project"); and

WHEREAS, pursuant to a Project Agreement between the District and Brook Park, Brook Park retained Fithenics, Inc. ("Fithenics") as a consultant to perform the engineering design for the Project, and the District has agreed to reimburse Brook Park for costs incurred for the engineering design of the Project; and

WHEREAS, as the County is responsible for the maintenance and repair of the Bridge, the County agreed to contribute to the cost of the construction, inspection, and construction administration of the Bridge, which consists of replacing the Bridge with a precast concrete box beam bridge with approach slabs (the "Bridge Project"), as further described below; and

WHEREAS, the Cities share responsibility for the maintenance of Sheldon Road, as the municipal jurisdictional boundary serves as the centerline of such Road, therefore the Cities agreed to contribute to a portion of the cost of the construction, inspection, and construction management of Sheldon Road, which consists of raising the profile and replacing Sheldon Road to improve stream function and mitigate flooding (the "Road Project"), as described below; and

WHEREAS, Brook Park and the District entered into a Service Agreement where the District provides maintenance to the Regional Stormwater System within the territorial boundaries of Brook Park (the "Brook Park Service Agreement"); and

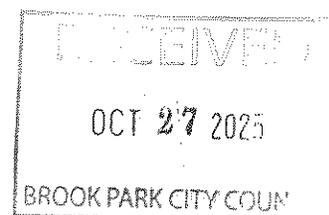
WHEREAS, Middleburg Heights and the District entered into a Service Agreement where the District provides maintenance to the Regional Stormwater System within the territorial boundaries of Middleburg Heights (the "Middleburg Heights Service Agreement"); and WHEREAS, the Parties desire to enter into this Agreement to define their responsibilities for constructing the Project; and

WHEREAS, in compliance with the Brook Park Service Agreement and Middleburg Heights Service Agreement, the District agreed to contribute to a portion of the cost of the construction, inspection, and construction management of the Project, as described below.

NOW, THEREFORE, in consideration of the foregoing and the agreements set forth herein for the continued benefit of the Regional Stormwater System, the Parties agree as follows:

SECTION 1. OBLIGATIONS OF CUYAHOGA COUNTY

- 1.1. County Funds. The County agrees to contribute an amount not to exceed \$1,500,000 for the construction, administration, and inspection of the Bridge Project (the "County Funds"). The amount of the County Funds may be revised as provided in Section 1.2 below.
- 1.2. OPWC Funding. The County will prepare a grant application for funding from the Ohio Public Works Commission ("OPWC"). If the application is accepted, any funds received from the OPWC for the Project will be applied first to reduce the County's funding obligations under section 1.1. In the event the OPWC award is in excess of the County Funds, the remaining funds will then be applied to reduce the amount of funding due from the District and Cities for both the Road Project and the Bridge Project as described below.



- 1.3. Public Participation, Outreach, and Signage. The Parties shall acknowledge the other Parties in presentations or publications related to the Project. The Parties shall work together to develop a public notification plan to inform the public of the Project. The Parties shall acknowledge the other Parties on Project-related public outreach communications and in County public meetings that discuss the Project.
- 1.4. Maintenance. Upon completion of the construction of the Project, the County will be responsible for the inspection and major maintenance of the Sheldon Road Bridge.

SECTION 2. OBLIGATIONS OF THE NORTHEAST OHIO REGIONAL SEWER DISTRICT

- 2.1. Performance of the Project. The District agrees to engage the necessary personnel, materials and equipment to construct the Project in accordance with the Project Plans when finalized as defined in section 3.2.1 (preliminary versions of plans are included in Exhibit “E”). The estimate of probable cost for the construction of the Project, including construction administration and inspection, is \$7,219,559.00 (“Construction Cost”).
 - 2.1.1. Construction, Testing, and Construction Inspection. The District shall arrange for the construction, inspection, supervision, and administration of the construction of the Project, subject to contribution from the District and the Cities as provided herein.
 - 2.1.2. Permits. Brook Park conducted title examinations and performed appraisals for the acquisition of all the properties and easements necessary for the construction and maintenance of the Project and coordinated with all utility companies in preparing preliminary plans and specifications. Brook Park (through its consultant Euthenics) shall obtain all environmental permits necessary for the construction of the Project.
 - 2.1.3. Construction Change Management. If there is a need for a construction change that results in an increase of the Construction Cost, the District will inform the other Parties via email before authorizing the work. The County agrees to review and approve such construction change within ten (10) days of receipt of the notice. Notwithstanding the preceding sentence, the District may proceed with the change without awaiting the County’s approval if the change at issue results in a cost increase of less than 10% of the Construction Cost.
 - 2.1.4. Prevailing Wages. For the labor used for constructing the Project, the District shall pay prevailing wages as set forth in Chapter 4115 of the Ohio Revised Code and shall ensure compliance with any prevailing wage requirements in said Chapter.

- 2.1.5. Copies of Contracts & Insurance. The District shall promptly, upon request of the other Parties to this Agreement, provide an exact copy of the Construction Contract (defined below in Section 4.1) and the certificate of insurance of any contractors performing the Project.
- 2.1.6. Record drawings. Upon the completion of the Project, the District will provide the other Parties with record drawings for the Project.
- 2.1.7. Construction management. The District and the County may negotiate a separate agreement for managing the construction of the Project.
- 2.2. District Funds. The District agrees to contribute 90% of the actual costs of constructing the Road Project, including the costs to manage and inspect the construction. The District also agrees to contribute 100% of the actual cost to construct the Bridge Project that is in excess of the County Funds and the OPWC Funds. The total amount of the District's funding obligations shall not exceed \$5,002,422.50 (the "District Funds").
- 2.3. Federal Funding (the "Federal Award"). The District intends to apply for a Community Grant for the Project (also known as the "Abram Creek Flood Reduction Project" for the Federal Award purposes) in the amount of \$2,724,800.00 (the "Grant").
- Any funds received by the District from the Federal Award will be applied first to reduce the amount of the District Funds and shall be included in and not in addition to the District Funds outlined in section 2.1. In the event the District is not able to access the Federal Award funds for any reason, the District will use the Stormwater funds to fulfill its financial obligation under Section 2.1.
- 2.4. Project Presentations. The District shall acknowledge the Parties in presentations or publications related to the Project.
- 2.5. Maintenance. The District will maintain the regional storm sewer assets in accordance with the Brook Park Service Agreement and the Middleburg Heights Service Agreement.

SECTION 3. OBLIGATIONS OF THE CITIES

- 3.1. City Funds. The Cities agree to contribute 10% of the actual costs of constructing the Road Project, including the costs to manage and inspect the construction, for a total not-to-exceed amount from the Cities combined of \$555,826.00 (the "City Funds"), as described below. If the actual cost of the Road Project exceeds the Cities' share of the Construction Cost, the Cities shall seek additional authority from their respective City Councils to amend the Community Cost Share Transfer Agreements described below to reimburse the District their proportional share of such additional costs.

3.2. Brook Park.

3.2.1 Brook Park and Euthenics shall prepare final design specifications for the Project (the "Project Plans"). Brook Park shall submit all proposed design specifications related to the Bridge Project to the County and the District for review and approval prior to finalizing the Project Plans. The Project Plans shall not be considered finalized unless and until the County and the District approved the design specifications for the Project.

3.2.2 The District and Brook Park agree to enter into a Community Cost-Share Transfer Agreement where the City shall transfer to the District from the City's Community Cost-Share Account 5% of the cost of the Road Project in the amount estimated at \$277,913.00 ("Brook Park Community Cost-Share Funds"). Brook Park shall submit to the District an application for the Community Cost-Share Funds and execute a Community Cost-Share Transfer Agreement before July 1, 2026. After the execution of the Community Cost-Share Transfer Agreement but no later than December 31, 2026, Brook Park shall submit to the District a Fund Transfer Request form (Exhibit "F") for the entire amount of the Brook Park Community Cost-Share Funds.

3.2.3 In addition to the amount described in Section 3.2.2 above, Brook Park agrees to contribute \$161,310.50 ("Brook Park Sewer Funds") for the construction of the sanitary sewer described in the preliminary plans and specifications attached to the Agreement as Exhibit "E." Brook Park shall deposit the Brook Park Sewer Funds with the Treasurer of Cuyahoga County prior to an award of a construction contract for the Project, but no earlier than 30 days prior to such contract award. The construction of the sanitary sewer shall be part of the Road Project for purposes of determining the Parties' respective obligations for Construction Costs.

3.3. Middleburg Heights. The District and Middleburg agree to enter into a Community Cost-Share Transfer Agreement where the City shall transfer to the District from the City's Community Cost-Share Account 5% of the cost of the Road Project in the amount estimated at \$277,913.00 ("Middleburg Heights Community Cost-Share Funds"). Middleburg Heights shall submit to the District an application for the Community Cost-Share Funds and execute a Community Cost-Share Transfer Agreement before July 1, 2026. After the execution of the Community Cost-Share Transfer Agreement but no later than December 31, 2026, Middleburg Heights will submit to the District a Fund Transfer Request form (Exhibit "F") for the entire amount of Middleburg Heights Community Cost-Share Funds.

3.4. Modification of City Funds. In the event that, after any reduction of the County's funding obligations pursuant to section 1.2, the amount of the OPWC Funds and the Federal

Award are sufficient to pay for more than 90% of the actual cost of the Road Project, such excess shall be applied to decrease the City Funds by proportionally reducing the Brook Park Community Cost-Share Funds and the Middleburg Heights Community Cost-Share Funds.

- 3.5. Required documents. The District shall provide the Cities with documentation to the Cities' reasonable satisfaction and submitted in a form sufficient to allow the Cities to review, inspect and approve the District's invoices.
- 3.6. Permits. Brook Park (through its consultant Euthenics) shall obtain all required federal, state, and local permits or other approvals necessary to commence and complete the construction of the Project.
- 3.7. Access. The Cities hereby grant the District all rights of access necessary for the construction of the Project and waive all City permitting or other fees related to the performance of all aspects of the Project. The District may enter upon and use all access roads in and around the Project area.
- 3.8. Meeting Participation. The Cities shall have the right to attend all Project progress meetings, for which the Cities will receive at least two (2) working days' advance notice. The Cities shall receive the meeting minutes from each meeting from the District within ten (10) working days of the meeting for review and comment.
- 3.9. Project Presentations. The Cities shall acknowledge the County and the District in presentations or publications related to the Project.
- 3.10. Maintenance. Upon the completion of the construction of the Project, the Cities will be responsible for the routine maintenance of the Bridge and the major and routine maintenance of Sheldon Road.

SECTION 4. SPECIAL PROVISIONS

- 4.1. Real Property. The District agrees to hold title of all necessary rights of entry and temporary easements for the construction of the Project. The Cities agree to hold title of all permanent easements or rights of way necessary for the Project.
- 4.2. Construction Contract. The contractor selected by the District ("District Contractor") shall be awarded the public improvement contract to construct the Project (the "Construction Contract") following the District's procurement standards. Once the District Contractor is selected and before the Construction Contract is approved by the District's Board of Trustees, the District shall inform the County and the Cities of the amount of the Construction Contract and the identity of the District Contractor, and the County and the Cities shall acknowledge their approval in writing.

The District agrees to submit to the County and the Cities the bid package of the lowest and best bidder for review prior to the award of a contract, or as soon as practicable thereafter if a contract has been executed. The bid package will include the bid tabulation, a copy of the proof of advertising, the bid bond of the low bidder and the recommendation to award a contract to the low bidder.

4.3. Reconciliation of Funds. Within 180 days from the final completion of the Project, the District shall reconcile the actual cost expended under the Construction Contract against the estimated Construction Cost and the total payments received from the County and the Cities. The District shall calculate each Party's share of the actual construction cost of the Project, including the costs of inspection and construction management, and reconcile the actual costs of the Project with the County Funds, the District Funds and the City Funds, and shall provide each Party a report of such reconciliation.

4.4. Liabilities; No Indemnification. The Parties acknowledge that, as political subdivisions of the State of Ohio, they are unable to indemnify any person or entity. The Parties agree that no provision of this Agreement or any other contract or agreement between them may be interpreted to obligate the one Party to indemnify or defend any other Party.

No Party shall incur any liability or be responsible for any claim arising from the other Parties' activities related to the Project.

4.5. Change Requests. If any one or more of the Cities or the County formally requests that the District include the construction of sanitary sewers, waterlines, area sewers (drainage of area surrounding the improvement), sidewalks, alternate bid items, or other items in the Project that are in addition to those now existing and not provided for elsewhere in this Agreement, the District will do so, provided that this construction meets with the approval of the District and the Party requesting the addition; and that the Party requesting the District complete the addition agrees to pay, or make arrangements for the payment of, the cost of said additional construction, the cost of preliminary and design engineering, and construction supervision.

4.6. Additional Funds. In the event the Construction Cost discussed in Section 2.1 is insufficient to cover the amount of the Construction Contract, the County and the Cities agree to seek additional authority from their respective Councils to enter into an amendment to this Agreement to the Project for their proportional share of such additional cost.

SECTION 5. TERM

- 5.1. The Term of this Agreement shall commence on the Effective Date and shall expire upon successful completion of the obligations contained herein by all Parties.

SECTION 6. MISCELLANEOUS

- 6.1. Authority to Execute. Each person executing this Agreement represents and warrants that he is duly authorized to execute this Agreement by the Party on whose behalf he is so executing.
- 6.2. Binding on Successors. This Agreement is binding upon, and inures to the benefit of, the Parties and their respective permitted successors and assigns.
- 6.3. Counterpart Signatures. This Agreement may be executed in counterparts, each of which shall be deemed to be an original, but which counterparts when taken together shall constitute one Agreement. The Parties agree that this Agreement may be executed and distributed for signatures via email, and that the emailed signatures affixed by the Parties to this Agreement shall have the same legal effect as if such signatures were in their originally written format.
- 6.4. Disclaimer of Joint Venture. This Agreement is not intended to create a joint venture, partnership or agency relationship between the Parties, and such joint venture, partnership, or agency relationship is specifically hereby disclaimed.
- 6.5. Governing Law. The terms and provisions of this Agreement shall be construed under and governed by the laws of Ohio (to which all Parties hereto consent to venue and jurisdiction).
- 6.6. Modification of Agreement. This Agreement may only be modified by written instrument executed by each Party.
- 6.7. Merger Clause. This Agreement, along with any exhibits and amendments hereto, encompasses the entire agreement of the Parties, and supersedes all previous understandings and agreements between the Parties, whether oral or written.
- 6.8. No Third-Party Beneficiaries. Nothing in this Agreement, express or implied, is intended to or shall confer upon any person other than the parties hereto, any legal or equitable right, benefit, or remedy of any nature under or by reason of this Agreement.
- 6.9. Remedies. The Parties agree that, after exhausting the dispute resolution process outlined above, all claims, counterclaims, disputes and other matters in question between the

Parties arising out of or relating to this Agreement, or the breach thereof, will be decided at law.

- 6.10. Severability. If any term or provision of this Agreement is determined to be illegal, unenforceable, or invalid, in whole or in part for any reason, such provision shall be stricken from this Agreement and, so long as the striking of the provision does not materially affect the value of the Agreement or the obligations under the Agreement for any one or more parties, such provision shall not affect the validity of the remainder of this Agreement.

SECTION 7. NOTICES

- 7.1. All notices delivered hereunder shall be made by email or regular U.S. mail to the following:

COUNTY

Thomas Sotak
Deputy Chief Engineering
Cuyahoga County Department of Public Works
2789 East 9th Street
Cleveland, Ohio 44115
tsotak@cuyahogacounty.us

DISTRICT

Kimberly Colich, P.E.
Stormwater Program Manager
NEORS
3900 Euclid Avenue
Cleveland, OH 44115
colichk@neorsd.org

CITY OF BROOK PARK

Edward R. Piatak, P.E.
City Engineer
Euthenics, Inc.
8235 Mohawk Drive
Cleveland, OH 44136
Phone no. (440) 260-1555
erpiatak@euthenics-inc.com.

CITY OF MIDDLEBURG HEIGHTS

Kim Kerber, P.E.

City Engineer

Wallace Pancher Group

7017 Pearl Rd.

Cleveland, OH 44130

phone no: (440) 886-4500

kkerber@manksmithgroup.com

SECTION 8. EXHIBITS

8.1. The Exhibits attached to this Agreement are incorporated into and made part of this Agreement as though expressly rewritten herein. In the event of a conflict between the provisions of this Agreement and the Exhibits, these documents shall be given priority in the following order: 1) the main body of this Agreement, 2) the Project plans and specifications; 3) the Parties' respective Resolutions; and 4) the District's Fund Transfer Request form.

Exhibit "A" - County's Resolution

Exhibit "B" - District's Resolution

Exhibit "C" - Brook Park's Resolution

Exhibit "D" - Middleburg Heights Resolution

Exhibit "E" - Preliminary project plans

Exhibit "F" - District Fund Transfer Request form

[signatures on the following pages]

The Parties hereto have executed and delivered this Agreement as of the date first above written.

CUYAHOGA COUNTY, OHIO

By: _____
Christopher Ronayne, County Executive

The legal form and correctness
of this instrument is approved.

Rick Manoloff
Law Director

By: _____

Date: _____

NORTHEAST OHIO REGIONAL SEWER DISTRICT

By: _____
Kyle Dreyfuss-Wells
Chief Executive Officer

and: _____
Darnell Brown, President
Board of Trustees

The legal form and correctness
of this instrument is approved.

Eric Luckage
Chief Legal Officer

By: _____

Date: _____

This Instrument Prepared By:

Anka M. Davis
Assistant General Counsel
Northeast Ohio Regional Sewer District

CITY OF BROOK PARK

By: _____
Edward Orcutt, Mayor

The legal form and correctness
of this instrument is approved.

Carol Dillon Horvath
Law Director

By: _____

Date: _____

CITY OF MIDDLEBURG HEIGHTS

By: _____
Matthew Caselli, Mayor

The legal form and correctness
of this instrument is approved.

Santo T. Incorvaia
Law Director

By: _____

Date: _____

AGREEMENT NO.

NORTHEAST OHIO REGIONAL
SEWER DISTRICT

WITH

CUYAHOGA COUNTY, OHIO,
CITY OF BROOK PARK
AND
CITY OF MIDDLEBURG HEIGHTS

FOR

THE CONSTRUCTION OF SHELDON
ROAD PROFILE RAISING & BRIDGE
REPLACEMENT DESIGN PROJECT
(ALSO KNOWN AS "ABRAM CREEK
FLOOD REDUCTION PROJECT")

CERTIFICATION

It is hereby certified that the amount
required to meet the contract,
agreement, obligation, payment or
expenditure, for the above, has been
lawfully appropriated or authorized or
directed for such purpose and is in the
Treasury or in process of collection to
the credit of the fund free from any
obligation or certification now
outstanding.

KENNETH J. DUPLAY
CHIEF FINANCIAL OFFICER

Total Approximate Cost:	\$7,219,559.00
County Funds:	\$1,500,000.00
District Funds:	\$5,002,422.50
Brook Park Funds:	\$439,223.50
Middleburg Heights Funds:	\$277,913.00

Date

The legal form and correctness of the
within instrument are hereby approved.

ERIC J. LUCKAGE
CHIEF LEGAL OFFICER

Date

AGREEMENT NO.

The legal form and correctness of the within instrument are hereby approved.

NORTHEAST OHIO REGIONAL SEWER DISTRICT

ERIC J. LUCKAGE CHIEF LEGAL OFFICER

WITH

CERTIFICATION

CUYAHOGA COUNTY, OHIO, CITY OF BROOK PARK AND CITY OF MIDDLEBURG HEIGHTS

FOR

It is hereby certified that the amount required to meet the contract, agreement, obligation, payment or expenditure, for the above, has been lawfully appropriated or authorized or directed for such purpose and is in the Treasury or in process of collection to the credit of the fund free from any obligation or certification now outstanding.

THE CONSTRUCTION OF SHELDON ROAD PROFILE RAISING & BRIDGE REPLACEMENT DESIGN PROJECT (ALSO KNOWN AS "ABRAM CREEK FLOOD REDUCTION PROJECT")

Total Approximate Cost: \$7,219,559.00 County	
Funds:	\$1,500,000.00
District Funds:	\$5,002,422.50
Brook Park Funds:	\$439,223.50
Middleburg Heights Funds:	
	\$277,913.00

KENNETH J. DUPLAY CHIEF FINANCIAL OFFICER

Date

Date

EXHIBIT A

EXHIBIT B

NORTHEAST OHIO REGIONAL SEWER DISTRICT
RESOLUTION NO. 197-25

AUTHORIZATION TO ENTER INTO A COOPERATION AGREEMENT WITH THE CITY OF BROOK PARK, CITY OF MIDDLEBURG HEIGHTS AND CUYAHOGA COUNTY FOR THE CONSTRUCTION OF THE SHELDON ROAD PROFILE RAISING & BRIDGE REPLACEMENT PROJECT, ALSO KNOWN AS THE ABRAM CREEK FLOOD REDUCTION PROJECT, WITH A DISTRICT CONTRIBUTION TOWARD PROJECT COSTS IN AN AMOUNT NOT-TO-EXCEED \$5,002,422.50, COMBINED WITH \$277,913.00 FROM MIDDLEBURG HEIGHTS, \$439,223.50 FROM BROOK PARK, AND \$1,500,000.00 FROM CUYAHOGA COUNTY, FOR A TOTAL PROJECT COST NOT-TO-EXCEED \$7,219,559.00.

WHEREAS, it is necessary to enter into a Cooperation Agreement with the City of Brook Park, City of Middleburg Heights, and Cuyahoga County to facilitate the construction of the Sheldon Road Profile Raising & Bridge Replacement Project, also known as the Abram Creek Flood Reduction Project (the "Project") to develop a water resource project to eliminate public roadway flooding and improve stream flow conveyance along the regional stormwater system in Abram Creek, a major Rocky River tributary; and

WHEREAS, the Cooperation Agreement will require a District contribution toward project costs in an amount not-to-exceed Five Million Two Thousand Four Hundred Twenty-Two and 50/100 Dollars (\$5,002,422.50), combined with Two Hundred Seventy-Seven Thousand Nine Hundred Thirteen and 00/100 Dollars (\$277,913.00) from Middleburg Heights, Four Hundred Thirty-Nine Thousand Two Hundred Twenty-Three and 50/100 Dollars (\$439,223.50) from Brook Park, and One Million Five Hundred Thousand and 00/100 Dollars (\$1,500,000.00) from Cuyahoga County, for a total project cost not-to-exceed Seven Million Two Hundred Nineteen Thousand Five Hundred Fifty-Nine and 00/100 Dollars (\$7,219,559.00); and

WHEREAS, the construction of the Project will be overseen by the Cuyahoga County Department of Public Works;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE NORTHEAST OHIO REGIONAL SEWER DISTRICT:

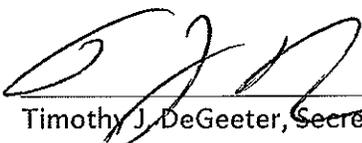
Section 1. That this Board hereby authorizes the District to enter into a Cooperative Agreement with City of Brook Park, City of Middleburg Heights, and Cuyahoga County with a District contribution toward project costs in an amount not-to-exceed Five Million Two Thousand Four Hundred Twenty-Two and 50/100 Dollars (\$5,002,422.50), combined with Two Hundred Seventy-Seven Thousand Nine Hundred Thirteen and 00/100 Dollars (\$277,913.00) from Middleburg Heights, Four Hundred Thirty-Nine Thousand Two Hundred Twenty-Three and 50/100 Dollars (\$439,223.50) from Brook Park, and One Million Five Hundred Thousand and 00/100 Dollars (\$1,500,000.00) from Cuyahoga County, for a total project cost not-to-exceed Seven Million Two Hundred Nineteen Thousand Five Hundred Fifty-Nine and 00/100 Dollars (\$7,219,559.00).

Section 2. That this Board further finds that entering into a Cooperation Agreement with City of Brook Park, City of Middleburg Heights, and Cuyahoga County is necessary and serves a public purpose in that it will eliminate public roadway flooding and improving stream conveyance in Abram Creek, a tributary to the Rocky River, enhancing the implementation of the District's RSMP.

Section 3. That this Board hereby authorizes the Chief Executive Officer, at the request of the Director of Watershed Programs, to execute all documents and do all things necessary to effectuate the terms and conditions of the agreement authorized herein.

Section 4. That this Board declares that all formal actions of the Board concerning and relating to the adoption of this resolution and that all deliberations of the Board and any of its committees that resulted in said formal action were conducted in meetings open to the public and in compliance with all legal requirements, including Section 121.22 of the Ohio Revised Code.

On motion of Ms. Chambers, seconded by Mayor Alai, the foregoing resolution was adopted unanimously on September 4, 2025.

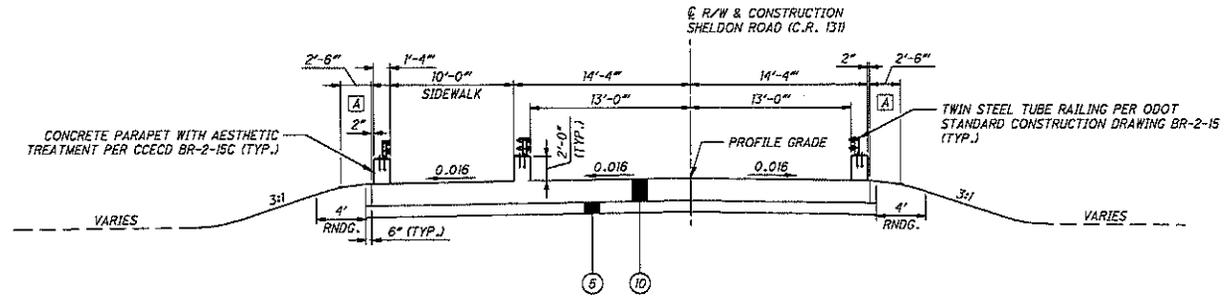


Timothy J. DeGeeter, Secretary
Board of Trustees
Northeast Ohio Regional Sewer District

EXHIBIT C

EXHIBIT D

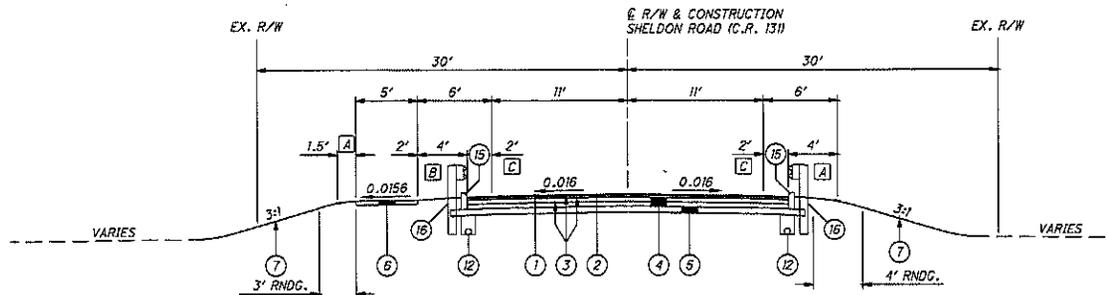
EXHIBIT E



- A SEEDING (0.08)
- B SEEDING (0.06)
- C PAVED SHOULDER (0.04)

APPROACH SLAB TYPICAL SECTION - SHELDON ROAD

STA. 105+02 TO STA. 105+17 = 15'
STA. 105+80 TO STA. 105+95 = 15'



PROPOSED BRIDGE TERMINAL ASSEMBLY - SHELDON ROAD

STA. 104+83.85 TO STA. 105+02.00 = 18.15' (L.T./RT.)
STA. 105+85.00 TO STA. 106+14.75 = 19.15' (L.T.)
STA. 105+85.00 TO STA. 106+13.75 = 18.15' (RT.)

GENERAL

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS, EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

CITY OF BROOK PARK
19095 HOLLAND ROAD
BROOK PARK, OHIO 44142
CONTACT: BRIAN BEYER,
SERVICE DIRECTOR
PHONE: (216) 433-7192
bbeyer@cityofbrookpark.com

AT&T OHIO
13630 LORAIN AVENUE, 2ND FLOOR
CLEVELAND, OHIO 44111
CONTACT: DENISE PLANT
PHONE: (216) 302-5183
dp1291@att.com

CEI FIRST ENERGY
6896 MILLER ROAD
BRECKSVILLE, OHIO 44141
CONTACT: JOHN M. ZASSICK
PHONE: (440) 546-8706
jzassick@firstenergycorp.com

CITY OF CLEVELAND
DIVISION OF WATER
1201 LAKESIDE AVENUE
CLEVELAND, OHIO 44114
CONTACT: FRED ROBERTS
PHONE: (216) 684-2444 EXT. 75590
fred.roberts@ClevelandWater.com

TC ENERGY (COLUMBIA GAS)
7080 FRY ROAD
MIDDLEBURG HEIGHTS, OH 44130
ATTN: DAN SUREN
PHONE: (440) 891-2428
dsuren@source.com

WINDSTREAM
2165 STATE ROUTE 133
SOUTH BLANCHESTER, OHIO 45107
ATTN: LEON TAYLOR,
PHONE: (937) 725-5358
leon.taylor@windstream.com

NORTHEAST OHIO REGIONAL SEWER
DISTRICT (NEORS)
3900 EUCLID AVE.
CLEVELAND, OH 44115
ATTN:
PHONE:
email.address

CITY OF MIDDLEBURG HEIGHTS
15700 BAGLEY ROAD
MIDDLEBURG HEIGHTS, OHIO 44130
CONTACT: JAMES HERRON,
DIRECTOR OF PUBLIC SERVICE
PHONE: (440) 234-2216
jherron@mideburghheights.com

BREEZELINE
105 BLAZE INDUSTRIAL PARKWAY
BEREA, OH 44017
ATTN: JOSE DIAZ
jdiaz@breezeline.com

CHARTER COMMUNICATIONS
8179 DOW CIRCLE
STRONGSVILLE, OHIO 44136
CONTACT: RON STACK
PHONE: (216) 575-8016
ron.stack@charter.com

ENBRIDGE GAS OHIO
(FORMERLY DOMINION ENERGY OHIO)
320 SPRINGSIDE DRIVE, SUITE 320
AKRON, OH 44333
CONTACT: RELOCATION TEAM
PHONE: (330) 864-2408
relocation@dominionenergy.com

MCI-WORLDCOM (VERIZON)
12300 RIDGE ROAD
NORTH ROYALTON, OH 44133
ATTN: RELOCATION TEAM
PHONE: (216) 347-7661
vzfiber-northernohio@verizon.com

UNITED STATES GEOLOGICAL SURVEY
6460 BUSCH BLVD. SUITE 100
COLUMBUS, OH 43229
ATTN: THOMAS HARRIS
PHONE: (614) 565-7461
tharris@usgs.gov

CALL OHIO OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
(OGPUPS) TOLL FREE 1-800-925-0388

ENBRIDGE GAS OHIO

IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE LATERAL AND SUBJACENT SUPPORT OF ENBRIDGE'S PIPELINES, IN COMPLIANCE TO 29 CFR, PART 1926, SUBPART P, (SAFE EXCAVATION & SHORING). EXTREME CARE SHOULD BE TAKEN NOT TO HARM ANY ENBRIDGE FACILITY (PIPELINES, ETC.) OR APPURTENANCE (PIPE COATING, TRACER WIRE, CATHODIC PROTECTION TEST STATION WIRES & DEVICES, VALVE BOXES, ETC.). ENBRIDGE FACILITIES MUST BE PROTECTED WITH A TARP DURING BRIDGE CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE AND LIABLE FOR ENSURING THAT ALL ENBRIDGE EXISTING FACILITIES, ABOVE AND BELOW GROUND, REMAIN UNDAMAGED, ACCESSIBLE AND IN WORKING ORDER. THE CROSSING OF ENBRIDGE'S PIPELINES WITH ANOTHER STEEL FACILITY MAY CREATE A POTENTIAL CORROSION ISSUE FOR THE PROPOSED FACILITY AND THE EXISTING ENBRIDGE FACILITY. PLEASE CONTACT ENBRIDGE'S CORROSION DEPARTMENT AT LEAST TWO WORKING DAYS BEFORE CONSTRUCTION AT: CORROSION@DOMINIONENERGY.COM.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL SUBSIDIARY AGREEMENT GOVERNING COMPLETION OF THIS PROJECT.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON THIS PROJECT. SEE SHEET RW.02 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL
POSITIONING METHOD: ODOT VRS
MONUMENT TYPE: TYPE B

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: 18

HORIZONTAL POSITIONING
REFERENCE FRAME: NAD 83 (2011 ADJ/2010.0 EPOCH)
ELLIPSOID: GRS 80
COORDINATE SYSTEM: CUYAHOGA COUNTY (OCCS)
MAP PROJECTION: TRANSVERSE MERCATOR
CENTRAL LATITUDE: N 40° 09' 00"
CENTRAL LONGITUDE: W 81° 45' 00"
FALSE NORTHING: 0 (METERS)
FALSE EASTING: 50000 (METERS)
PROJECTION SCALE FACTOR: 1.000029

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. IN ADDITION TO THE REQUIREMENTS OF SECTION 614.05, THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES, INCLUDING SUCH ADDITIONAL TRAFFIC CONTROL DEVICES LOCATED OUTSIDE THE LIMITS OF CONSTRUCTION AS ARE REQUIRED ON HIGHWAYS WHICH ARE USED AS DETOURS, INCLUDING THE "ROAD CLOSED" SIGNS UPON THE BARRICADES AT THE POINT WHERE THE HIGHWAY IS CLOSED TO THROUGH TRAFFIC.

STATIONING AND LOCATIONS

STATIONING AND LOCATIONS INDICATED ON THESE PLANS ARE APPROXIMATE. ALL LOCATIONS AND ITEMS CALLED OUT BY STATION ARE SUBJECT TO ADJUSTMENT IN THE FIELD AS DIRECTED BY THE ENGINEER.

EXISTING TYPICAL SECTIONS

EXISTING TYPICAL SECTIONS HAVE BEEN DEVELOPED FROM SITE MEASUREMENTS, PAVEMENT CORES, AND RECORD PLANS AND ARE BELIEVED TO REPRESENT THE WIDTH AND COMPOSITION OF THE EXISTING PAVEMENT, BUT THE COUNTY DOES NOT GUARANTEE THE ACCURACY OF SAME. A COPY OF PAVEMENT CORE DATA FOR SHELDON ROAD IS INCLUDED UNDER SECTION 500 OF THE "CUYAHOGA COUNTY ENGINEER SPECIFICATION BOOKLET" CONTAINED IN THE BID PACKAGE.

ITEM 619 - FIELD OFFICE, TYPE B, AS PER PLAN

THE FIELD OFFICE SHALL, IN ADDITION TO THE ITEMS LISTED IN ITEM 619, BE FURNISHED WITH TWO CELLULAR TELEPHONES.

THE CONTRACTOR'S INSURANCE SHALL INCLUDE A RIDER FOR COVERAGE OVER ANY CUYAHOGA COUNTY PROPERTY INSIDE THE FIELD OFFICE WHICH MAY BECOME DAMAGED OR STOLEN.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR THIS ITEM:

ITEM 619 - FIELD OFFICE, TYPE B, AS PER PLAN --- MONTHS

LOCAL LAWS, ORDINANCES AND REGULATIONS

IN ACCORDANCE WITH SECTION 107.01 OF THE GENERAL PROVISIONS, THE CONTRACTOR SHALL STAY FULLY INFORMED OF ALL LOCAL LAWS, ORDINANCES, REGULATIONS, ORDERS AND DECREES THAT AFFECT THE WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBSERVE AND COMPLY WITH ALL SUCH LAWS, ORDINANCES, REGULATIONS, ORDERS AND DECREES AT NO ADDITIONAL COST TO THE PROJECT/COUNTY.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 9:00 PM AND 7:00 AM UNLESS OTHERWISE APPROVED BY THE MUNICIPALITIES. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

PRIMARY PROJECT CONTROL INFORMATION

POINT NUMBER	GROUND COORDINATES U.S. SURVEY FEET		ORTHOMETRIC HEIGHT (ELEVATION)	DESCRIPTION
	NORTHING	EASTING		
100	451546.052	139963.368	771.10	IPIN W/TRVERSE CAP
101	451496.123	140288.939	765.11	IPIN W/TRVERSE CAP
102	451468.864	140873.097	764.27	IPIN W/TRVERSE CAP
103	451451.907	141317.378	779.28	IPIN W/TRVERSE CAP

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM OWNERS AS REQUIRED BY SECTION 163.64 O.R.C.

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PROJECT: ESM
 SHEET: 4
 OF: 53
 GENERAL NOTES
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GENERAL (CONT.)

ADJUSTMENTS IN CONTRACT TIME

TIME EXTENSIONS WILL ONLY BE CONSIDERED WHEN CONTROLLING ITEMS OF WORK ON THE APPROVED PROGRESS SCHEDULE ARE AFFECTED DUE TO NO FAULT OF THE CONTRACTOR.

WHEN ADDITIONAL WORK IS REQUIRED, TIME EXTENSIONS WILL ONLY BE GRANTED FOR CONTROLLING ITEMS ON THE PROGRESS SCHEDULE (SEE SECTION 108.06 OF THE CUYAHOGA COUNTY ENGINEER'S GENERAL PROVISIONS).

PROJECT PROGRESS MEETINGS

PROGRESS MEETINGS WILL BE HELD EVERY FOUR (4) WEEKS AT THE PROJECT OFFICE OR OTHER LOCATION DESIGNATED BY THE AREA CONSTRUCTION ENGINEER, AND WILL BE ATTENDED BY COUNTY AND CONTRACTOR DECISION-MAKING PERSONNEL.

THE PURPOSE OF THESE MEETINGS IS TO DISCUSS CRITICAL OPERATIONS AND POTENTIAL PROBLEMS. ALSO, THE CONTRACTOR WILL CONFIRM THE NUMBER AND DURATION OF WORK SHIFTS, NUMBER OF WORK CREWS, AND SPECIFIC PORTIONS OF THE WORK TO BE PERFORMED DURING THE FOLLOWING WEEKS.

THESE MEETINGS CAN ONLY BE WAIVED BY THE AREA CONSTRUCTION ENGINEER.

DEFINITIONS AND TERMS

WHEREVER THERE APPEARS, IN THE STANDARD SPECIFICATIONS (ODOT ITEMIZED CMS), SUPPLEMENTAL SPECIFICATIONS OR PROPOSAL NOTES, THE TERM "THE STATE", "DIRECTOR OF TRANSPORTATION", "DEPARTMENT", "DISTRICT CONSTRUCTION ENGINEER/DISTRICT CONSTRUCTION ADMINISTRATOR (DCA)", "ENGINEER", OR ANY OTHER TERM DESIGNATING ANY REPRESENTATIVE OR EMPLOYEE OF THE STATE OR ITS DEPARTMENT OF TRANSPORTATION, SUCH TERM SHALL, FOR THE PURPOSE OF THIS CONTRACT, BE CONSIDERED AND TAKEN AS MEANING AND DESIGNATING THE RESPECTIVE OFFICER OR EMPLOYEE OF CUYAHOGA COUNTY WHOSE DUTY OR FUNCTION IT IS TO DEAL WITH THE SUBJECT MATTER IN CONNECTION WITH WHICH SUCH TERM IS USED AND SPECIFICALLY:

- THE STATE - MEANS CUYAHOGA COUNTY.
- DEPARTMENT - MEANS THE CUYAHOGA COUNTY DEPARTMENT OF PUBLIC WORKS.
- DIRECTOR - MEANS THE CUYAHOGA COUNTY DIRECTOR OF PUBLIC WORKS, HIS/HER DEPUTIES, OR ANY ENGINEER DESIGNATED AS THE DIRECTOR'S REPRESENTATIVE.
- DISTRICT CONSTRUCTION ENGINEER/DISTRICT CONSTRUCTION ADMINISTRATOR (DCA) OR ENGINEER - MEANS THE AREA CONSTRUCTION ENGINEER, OR THE DULY AUTHORIZED AGENT OR REPRESENTATIVE OF THE CUYAHOGA COUNTY DIRECTOR OF PUBLIC WORKS, ACTING WITHIN THE SCOPE OF HIS/HER AUTHORITY FOR THE PURPOSES OF CONSTRUCTION ENGINEERING AND ADMINISTRATION OF THE CONTRACT.
- LABORATORY - MEANS ANY LABORATORY DESIGNATED BY THE COUNTY.

GENERAL PROVISIONS

ALL REFERENCES TO THE GENERAL PROVISIONS (SECTION 100) OF THE OHIO DEPARTMENT OF TRANSPORTATION'S CONSTRUCTION AND MATERIAL SPECIFICATIONS (ODOT CMS) THAT ARE CITED IN THE ITEMIZED SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, PROPOSAL NOTES, PLANS OR ELSEWHERE IN THE CONTRACT DOCUMENTS SHALL, FOR THE PURPOSE OF THIS CONTRACT, BE CONSIDERED AND TAKEN AS MEANING THE CUYAHOGA COUNTY ENGINEER'S GENERAL PROVISIONS AS CONTAINED IN THE "CUYAHOGA COUNTY ENGINEER SPECIFICATION BOOKLET". THE SUBSECTION NUMBERS AND TOPICS USED IN THE COUNTY'S GENERAL PROVISIONS CORRESPOND TO THOSE CONTAINED IN THE ODOT CMS.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER AND CALCIUM CHLORIDE FOR DUST CONTROL, AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616 - WATER	XX MGAL
ITEM 618 - CALCIUM CHLORIDE	XX TON

ITEM 201 - CLEARING AND GRUBBING, AS PER PLAN

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	9	1	10

TREE REMOVAL AND ENDANGERED SPECIES RESTRICTIONS

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT, NORTHERN LONG-EARED BAT, LITTLE BROWN BAT, AND TRICOLORED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT (ESA). FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT WITH A TRUNK THREE INCHES (3") OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE AND HAVING A MINIMUM HEIGHT OF 13 FEET.

ADDITIONALLY, ALL EXISTING BRIDGE OR CULVERT STRUCTURES WITHIN THE LIMITS OF THE PROJECT SHALL BE CAREFULLY EXAMINED FOR THE PRESENCE OF THE INDIANA BAT, NORTHERN LONG-EARED BAT, LITTLE BROWN BAT, AND TRICOLORED BAT. IF ANY OF THESE BATS ARE FOUND ROOSTING ON THE UNDERSIDE OF AN EXISTING STRUCTURE, THEN THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR) AND THE UNITED STATES FISH & WILDLIFE SERVICE (USFWS) MUST BE NOTIFIED OF THEIR PRESENCE.

CUYAHOGA COUNTY IS ALSO POTENTIAL HABITAT FOR THE PIPING PLOVER, A FEDERALLY ENDANGERED SHOREBIRD THAT NESTS ON WIDE, FLAT, OPEN, SANDY STREAM BANKS AND BEACHES ALONG THE SHORELINES OF LAKE ERIE. PRESENCE OF THE PIPING PLOVER IS NOT EXPECTED WITHIN THE LIMITS OF THE PROJECT; HOWEVER, EFFORTS SHALL BE MADE TO PROTECT ANY IDENTIFIABLE HABITAT DISCOVERED AT THE PROJECT SITE.

PER SECTION 1533.324 OF THE OHIO REVISED CODE, ALL MUSSELS NATIVE TO THE STATE OF OHIO, INCLUDING CUYAHOGA COUNTY, ARE PROTECTED, INCLUDING TEN SPECIES THAT ARE FEDERALLY PROTECTED BY THE ENDANGERED SPECIES ACT (16 STAT. 884, AS AMENDED, 16 U.S.C. 1531 ET SEQ.). THE PRESENCE OF MUSSELS IN ANY BODY OF WATER WITHIN THE LIMITS OF THE PROJECT IS NOT EXPECTED; HOWEVER, IMPACTS TO STATE AND FEDERALLY PROTECTED MUSSELS AND THEIR HABITATS SHOULD BE AVOIDED OR MINIMIZED TO THE MAXIMUM EXTENT PRACTICABLE.

ADDITIONAL INFORMATION FOR ANY OF THE ABOVE PROTECTED AND ENDANGERED SPECIES CAN BE FOUND ON THE WEBSITES FOR THE OHIO DEPARTMENT OF NATURAL RESOURCES (WWW.OHIO.DNR.GOV), THE OHIO ECOLOGICAL SERVICES OFFICE (WWW.FWS.GOV/MIDWEST/OHIO), AND THE UNITED STATES FISH AND WILDLIFE SERVICE (WWW.FWS.GOV).

ITEM 623 - CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN

623.08 CONSTRUCTION LAYOUT STAKING

1. ALL HORIZONTAL CONTROL, AND, IF NECESSARY, VERTICAL CONTROL REQUIRED FOR THE COMPLETE LAYOUT AND PERFORMANCE OF THE WORK UNDER THIS CONTRACT SHALL BE DONE BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE AND MAY BE PERIODICALLY REVIEWED BY THE ENGINEER. ANY INSPECTION OR REVIEWING OF THE CONTRACTOR'S LAYOUT BY THE ENGINEER AND THE ACCEPTANCE OF ALL OR ANY PART OF IT SHALL NOT RELIEVE THE CONTRACTOR OF HIS/HER RESPONSIBILITY TO PRODUCE THE PROPER WORK DIMENSIONS, GRADES AND ELEVATIONS. THE REQUIREMENTS OF SECTION 107.10 OF THE GENERAL PROVISIONS ALSO APPLY.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND, IF APPLICABLE, ALL GRADES, LINES AND LEVELS AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS, AND HE/SHE SHALL REPORT ANY ERRORS OR INCONSISTENCIES IN THE ABOVE TO THE ENGINEER BEFORE COMMENCING WORK OR ORDERING ANY MATERIAL.
3. THE CONTRACTOR SHALL MARK (PAINT) OR STAKE THE PROJECT STATION NUMBERS AT INTERVALS OF 50 FEET (OR LESS AS DIRECTED OR APPROVED BY THE ENGINEER) BEFORE COMMENCING THE WORK.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL STAKES AND MARKS AND SHALL REPLACE THEM AT HIS/HER EXPENSE IF THEY ARE DAMAGED, LOST, DISPLACED OR REMOVED. THE CONTRACTOR SHALL USE COMPETENT PERSONNEL AND SUITABLE EQUIPMENT FOR THE LAYOUT WORK REQUIRED AND SHALL PROVIDE THAT IT IS DONE UNDER THE SUPERVISION OF A REGISTERED SURVEYOR. THE REQUIREMENTS OF SECTION 107.10 OF THE GENERAL PROVISIONS ALSO APPLY.

623.11 BASIS OF PAYMENT

PAYMENT WILL BE MADE UNDER:

ITEM 623 - CONSTRUCTION LAYOUT STAKES AND SURVEYING,	LUMP SUM
AS PER PLAN	

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ROADWAY

ITEM SPECIAL - MAILBOX SUPPORT SYSTEM

PRIOR TO THE COMMENCEMENT OF THE WORK, THE ENGINEER SHALL DETERMINE WHICH EXISTING MAILBOX AND SUPPORT SYSTEMS WILL REQUIRE TEMPORARY RELOCATION AS A RESULT OF THE WORK.

WHEN THE ENGINEER DETERMINES THAT AN EXISTING MAILBOX AND/OR SUPPORT SYSTEM REQUIRING TEMPORARY RELOCATION PER 107.10 IS A POTENTIAL SAFETY HAZARD OR CANNOT REASONABLY BE TEMPORARILY RELOCATED, THE ENGINEER SHALL DIRECT THE CONTRACTOR TO INSTALL A NEW MAILBOX AND/OR SUPPORT SYSTEM IN A TEMPORARY LOCATION AND TO SUBSEQUENTLY REMOVE AND DISPOSE OF THE EXISTING MAILBOX AND/OR SUPPORT SYSTEM. AT LEAST TWO (2) WEEKS IN ADVANCE OF THE REMOVAL, THE ENGINEER SHALL GIVE WRITTEN NOTICE TO THE OWNER OF THE OWNER'S OPTION TO REMOVE THE EXISTING MAILBOX AND/OR SUPPORT SYSTEM FOR SALVAGE OR TO PROVIDE A NEW MAILBOX IF HE/SHE SO CHOOSES.

THE FOLLOWING CONTINGENCY QUANTITIES ARE INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM SPECIAL - MAILBOX SUPPORT SYSTEM, SINGLE	-- EACH
ITEM SPECIAL - MAILBOX	-- EACH

PAYMENT FOR A MAILBOX SUPPORT SYSTEM SHALL INCLUDE ALL WORK AND MATERIALS NECESSARY TO ATTACH THE CONTRACTOR OR OWNER SUPPLIED MAILBOX AND FOR ERECTING THE MAILBOX SUPPORT SYSTEM IN ITS TEMPORARY LOCATION AND SUBSEQUENTLY RE-ERECTING THE MAILBOX AND SUPPORT SYSTEM IN ITS PERMANENT LOCATION; ALL TO THE SATISFACTION OF THE ENGINEER.

CONTRACTOR SUPPLIED MAILBOXES AND MAILBOX SUPPORT SYSTEMS SHALL BE IN ACCORDANCE WITH THE CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWING MD-7C.

PRIOR TO THE PRECONSTRUCTION MEETING, THE CONTRACTOR SHALL CONTACT THE LOCAL POSTMASTER REGARDING THE SPECIFIC MAIL DELIVERY/MAILBOX RELOCATION REQUIREMENTS FOR THE PROJECT AND BE PREPARED TO DISCUSS THEIR IMPLEMENTATION AT THE PRECONSTRUCTION MEETING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POSTMASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PER 107.10, NO SEPARATE PAYMENT WILL BE MADE TO THE CONTRACTOR FOR REMOVING, TEMPORARILY RELOCATING OR PERMANENTLY RE-ERECTING EXISTING MAILBOXES AND MAILBOX SUPPORT SYSTEMS.

LOCATION OF GUARDRAIL

THE LOCATION OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, IS SUBJECT TO ADJUSTMENT BY THE ENGINEER TO ASSURE THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

ITEM 608 - 4" CONCRETE WALK, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 608, THE FOLLOWING SHALL APPLY:

THE "CLASS OC MISC." OR "CLASS OC 1" CONCRETE USED FOR SIDEWALK (608) SHALL CONFORM TO THE "MODIFICATIONS TO ITEM 498 CONCRETE - GENERAL" AS CONTAINED IN THE "SECTION 400 PROPOSAL NOTES" OF THE "CUYAHOGA COUNTY ENGINEER SPECIFICATION BOOKLET".

ALL CONCRETE WALK SHALL BE A MINIMUM OF 4" THICK AND HAVE A 2" COMPACTED SCREENINGS BED WHICH MEETS THE REQUIREMENTS OF 703.10 (LIMITED TO CRUSHED STONE). WHERE THE WALK CROSSES A FLEXIBLE DRIVEWAY, THICKNESS SHALL BE INCREASED PER CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWING BP-4.1C. COST FOR FURNISHING AND PLACING THE 2" COMPACTED SCREENINGS BED AND FOR THICKENING AT FLEXIBLE DRIVES PER THE BP-4.1C CONSTRUCTION DRAWING SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR ITEM 608 - 4" CONCRETE WALK.

PER 608.03(C), IT IS REQUIRED THAT 1/2 INCH THICK EXPANSION JOINT MATERIAL (705.03) BE INSTALLED BETWEEN THE WALK AND THE BACK OF CURB OR ANY OTHER FIXED OBJECT. IN ADDITION TO THE LOCATIONS SPECIFIED UNDER 608.03(C), TRANSVERSE EXPANSION JOINTS SHALL BE CONSTRUCTED AT INTERVALS OF NOT MORE THAN 25 TO 30 FEET UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE EXPANSION JOINT FILLER (705.03) SHALL BE PLACED AT THE TRANSVERSE EXPANSION JOINTS FOR THE FULL DEPTH/WIDTH OF THE CONCRETE WALK AND SHALL BE TRULY NORMAL TO GRADE. THE TOP 1/2 INCH OF THE EXPANSION JOINT PLACED BETWEEN THE WALK AND BACK OF CURB SHALL BE SEALED WITH 705.04 JOINT SEALER.

UNLESS OTHERWISE REQUIRED BY MUNICIPAL STANDARDS/ORDINANCES, THE FINAL SURFACE SHALL BE TEXTURED BY USE OF AN ACCEPTED BROOM SO AS TO PRODUCE A UNIFORM, GRITTY, TRANSVERSE TEXTURE, AFTER WHICH, THE CONTRACTOR IS REQUIRED TO RETRACE THE PREVIOUSLY FORMED JOINTS AND OUTSIDE EDGES OF THE WALK.

FINAL FINISH SHALL BE IN ACCORDANCE WITH THE APPLICABLE MUNICIPAL STANDARDS/ORDINANCES.

THE COST OF THE MATERIAL AND LABOR ASSOCIATED WITH THE ABOVE WORK IS INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM 608 - 4" CONCRETE WALK, AS PER PLAN.

UNSUITABLE SUBGRADE MATERIAL

WHERE UNSUITABLE SUBGRADE MATERIAL IS ENCOUNTERED, IT SHALL BE REMOVED TO THE DEPTH DETERMINED BY THE ENGINEER AND REPLACED IN EIGHT (8) INCH MAXIMUM (LOOSE DEPTH MECHANICALLY COMPACTED LAYERS. SUITABLE EMBANKMENT MATERIAL (204.02) REQUIRED TO REPLACE THE UNDERCUT SUBGRADE SHALL, TO THE EXTENT POSSIBLE, EXHIBIT THE SAME PHYSICAL PROPERTIES AS THE ADJACENT SOUND SUBGRADE MATERIALS. HOWEVER, USE OF SLAG, IN ANY FORM, IS NOT PERMITTED. IN CONJUNCTION WITH THE ABOVE WORK, AN ESTIMATED QUANTITY OF ITEM 204 - GEOTEXTILE FABRIC IS PROVIDED FOR USE AS DIRECTED BY THE ENGINEER.

REMOVAL OF UNSUITABLE SUBGRADE SHALL BE PAID UNDER ITEM 204 - EXCAVATION OF SUBGRADE. THE COST OF FURNISHING AND COMPACTING SUITABLE EMBANKMENT MATERIAL IN PLACE SHALL BE PAID FOR UNDER ITEM 204 - EMBANKMENT, AS PER PLAN AND/OR ITEM 204 - GRANULAR EMBANKMENT, AS PER PLAN.

THE FOLLOWING ESTIMATED QUANTITIES TO BE USED AS DIRECTED BY THE ENGINEER, ARE CARRIED TO THE GENERAL SUMMARY FOR THIS WORK AND PAYMENT IS INCLUDED IN THE CONTRACT UNIT PRICE BID FOR:

ITEM 204 - EXCAVATION OF SUBGRADE	XX CY
ITEM 204 - EMBANKMENT, AS PER PLAN	XX CY
ITEM 204 - GRANULAR EMBANKMENT, AS PER PLAN	XX CY
ITEM 204 - GEOTEXTILE FABRIC	XX SY

ITEM 203 - EMBANKMENT, AS PER PLAN

ITEM 204 - EMBANKMENT, AS PER PLAN

ITEM 204 - GRANULAR EMBANKMENT, AS PER PLAN

USE OF SLAG, IN ANY FORM, IS NOT PERMITTED.

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GENERAL NOTES

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ROADWAY (CONT.)

ITEM 203 - ROADWAY MISC.: EPS GEOFOAM FILL

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND PLACING EPS GEOFOAM CONFORMING TO ASTM D6817 TYPE EPS 29 GEOFOAM AND ASTM C-578 TYPE IX. THE MATERIAL SHALL HAVE A MINIMUM DENSITY OF 1.80 POUNDS PER CUBIC FEET, AND A COMPRESSIVE RESISTANCE OF 10.9 PSI AT 1% STRAIN DEFORMATION.

ALL EPS GEOFOAM BLOCKS SHALL BE TREATED BY THE MANUFACTURER WITH A TESTED AND PROVEN TERMITE TREATMENT FOR BELOW GRADE APPLICATIONS. THE TREATMENT SHALL BE EPA REGISTERED, MEET REQUIREMENTS OF ICC ES AC239, AND BE RECOGNIZED IN AN ICC ES REPORT.

PRIOR TO ORDERING THE MATERIAL FOR THIS ITEM OF WORK, THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH THE FOLLOWING ITEMS:

- EPS GEOFOAM MANUFACTURERS PRODUCT LITERATURE AND TECH DATA INCLUDING PHYSICAL PROPERTIES IN COMPLIANCE WITH ASTM D 6817 TYPE SPECIFIED AND ASTM C 578 TYPE SPECIFIED.
- SUMMARY OF TEST COMPLIANCE WITH SPECIFIED PERFORMANCE CHARACTERISTICS AND PHYSICAL PROPERTIES.
- PRODUCT CERTIFICATE SHOWING EVIDENCE OF THIRD PARTY QUALITY CONTROL.

A SIGNED/NOTARIZED CERTIFICATION FROM THE MANUFACTURER THAT THEIR EPS GEOFOAM MATERIAL MEETS THE PLAN REQUIREMENTS. SHOP DRAWINGS SHOWING BLOCK THICKNESS, WIDTH, LENGTH, AND LAYING PATTERN OR SCHEDULE.

A GEOMEMBRANE SHALL BE PLACED ON THE TOP AND SIDES OF THE GEOFOAM FILL. THE MATERIAL SHALL BE TRI-POLYMER CONSISTENT WITH POLYVINYL CHLORIDE, ETHYLENE INTERPOLYMER ALLOY, AND A POLYURETHANE OR A COMPARABLE POLYMER COMBINATION. THE MATERIAL SHALL MEET THE FOLLOWING PHYSICAL AND CHEMICAL REQUIREMENTS.

- THICKNESS: MIN. 28 MILS (ATSM D 751)
- UNLEADED GASOLINE VAPOR MAXIMUM 0.40 TRANSMISSION RATE, OZ. PER SQUARE PER 24 HOURS (ASTM D 814)
- GRAB TENSILE STRENGTH: MIN. 600 LBS. BOTH MACHINE AND CROSS DIRECTION (1" GRIP 4' x 8' SAMPLE ASTM D 571)
- ELONGATION AT BREAK: 20% MIN. (ASTM D 571)-TOUGHNESS: 14,000 MIN. (GRAB TENSILE x PERCENT ELONGATION)
- PUNCTURE RESISTANCE: 800 LB. MIN. (ASTM D 751 BALL TIP)
- COLD CRACK: PASS -30° FAHRENHEIT (ASTM D 2136 1" MANDREL, 4 HR)
- FACTORY SEAMS: 2 INCH MIN. BONDED WIDTH
- SHEAR: 320 LBS. MIN. (ASTM D 751)

A SIGNED/NOTARIZED CERTIFICATION OF COMPLIANCE SHALL BE FURNISHED BY THE MANUFACTURER STATING THE SELECTED GEOMEMBRANE HAS BEEN TESTED AND MEETS THE ABOVE REQUIREMENTS. JOINTS IN THE GEOMEMBRANE WRAP SHALL BE LAPPED A MINIMUM OF 18 INCHES.

THE GEOFOAM FILL SHALL BE PLACED ON A GRANULAR BASE OF GRANULAR MATERIAL CONFORMING TO SIZE NO. 9 OF TABLE 703.01-1 OF THE CMS. THE GRANULAR BASE SHALL ALSO BE PLACED ALONG THE SIDES OF THE GEOFOAM FILL THAT ARE IN CONTACT WITH SOIL.

CARE SHALL BE TAKEN TO PROTECT THE GEOFOAM BLOCKS FROM EXPOSURE TO GASOLINE, SOLVENT NAPHTHA, FUEL OIL, MINERAL OIL, TURPENTINE, OR ANY OTHER SOLVENT. THE BLOCKS SHALL ALSO BE PROTECTED FROM EXPOSURE TO ANY HEAT SOURCE WHICH WOULD REACH 175 DEGREES (F). GEOFOAM SHALL BE STORED ABOVE GROUND, AND PROTECTED FROM MOISTURE AND SUNLIGHT PRIOR TO INSTALLATION.

DAMAGE TO GEOFOAM SHALL BE CORRECTED AS FOLLOWS:

SLIGHT DAMAGE (< 0.12 CU FT) WITH NO LINEAR DIMENSION GREATER THAN 1 FOOT MAY BE LEFT IN PLACE AS IS.

MODERATE DAMAGE (< 0.35 CU FEET) WITH NO LINEAR DIMENSION GREATER THAN 1 FOOT SHALL BE FILLED IN WITH SAND.

GEOFOAM BLOCKS WITH EXCESSIVE DAMAGE (I.E. EXCEEDING THE MODERATE CATEGORY) SHALL BE REPLACED WITH GEOFOAM BLOCKS WHICH MEET THE DAMAGE CRITERIA. GEOFOAM BLOCKS NOT MEETING THE CRITERIA MAY BE CUT TO ELIMINATE THE EXCESSIVE DAMAGE AND THE REMAINING UNDEAMAGED PORTION OF THE BLOCK MAY BE USED WITHIN THE FILL, PROVIDED THE UNDEAMAGED PORTION OF THE BLOCK MEETS ALL OTHER REQUIREMENTS.

PLACEMENT:

THE SURFACE OF A LAYER OF GEOFOAM BLOCKS TO RECEIVE ADDITIONAL GEOFOAM BLOCKS SHALL BE CONSTRUCTED WITH A VARIATION IN SURFACE TOLERANCE OF NO MORE THAN 1/2" IN ANY 10 FOOT INTERVAL. ALL BLOCKS SHALL BE ACCURATELY FIT RELATIVE TO ADJACENT BLOCKS. NO GAPS GREATER THAN 1" WILL BE ALLOWED ON VERTICAL JOINTS. THE FINISHED SURFACE OF THE GEOFOAM FILL BENEATH PAVEMENT SECTIONS SHALL BE CONSTRUCTED TO WITHIN THE TOLERANCE OF ZERO MINUS 2.5" OF THE INDICATED GRADE.

BLOCKS PLACED IN A ROW IN A PARTICULAR LAYER SHALL BE OFFSET 2 FEET RELATIVE TO BLOCKS PLACED IN ADJACENT ROWS OF THE SAME LAYER. IN ORDER TO AVOID CONTINUOUS JOINTS, EACH SUBSEQUENT LAYER OF BLOCKS SHALL BE ROTATED ON THE HORIZONTAL PLANE 90 DEGREES FROM THE DIRECTION OF PLACEMENT OF THE PREVIOUS LAYER.

THE LONGITUDINAL AXES OF THE UPPERMOST LAYER OF BLOCKS MUST BE PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE ROAD ALIGNMENT.

CONNECTOR PLATES SHALL BE PLACED BETWEEN HORIZONTAL LAYERS OF BLOCKS. A MINIMUM OF TWO CONNECTOR PLATES SHALL BE USED BETWEEN BLOCKS.

CONNECTORS SHALL BE GALVANIZED STEEL OR STAINLESS STEEL TWO SIDED MULTI-BARBED CONNECTORS. EACH CONNECTOR SHALL HAVE A LATERAL HOLDING STRENGTH OF AT LEAST 80 LBS. PROVIDE A SIGNED/NOTARIZED CERTIFICATION FROM THE MANUFACTURER THAT THE CONNECTOR PLATES MEET MATERIAL, DESIGN AND STRENGTH REQUIREMENTS OF THESE PLANS.

BLOCKS SHALL BE CUT USING A SAW OR HOT WIRE.

NO VEHICLE OR CONSTRUCTION EQUIPMENT SHALL TRAVERSE DIRECTLY ON THE EPS BLOCKS OR ON ANY SEPARATION MATERIAL PLACED BETWEEN THE EPS BLOCKS AND THE PAVEMENT SYSTEM. SOIL FOR THE PAVEMENT SYSTEM SHALL BE PUSHED ONTO THE EPS BLOCKS OR SEPARATION LAYER USING APPROPRIATE EQUIPMENT. A MINIMUM OF 12 INCHES OF FILL SHALL COVER THE TOP OF THE GEOFOAM BLOCK OR SEPARATION LAYER BEFORE COMPACTION COMMENCES. THE CONTRACTORS EQUIPMENT USED DURING COMPACTION SHALL NOT PLACE A PRESSURE GREATER THAN 18 PSI ON THE GEOFOAM BLOCKS AT ANY TIME DURING CONSTRUCTION. ANY DAMAGE TO THE GEOFOAM BLOCKS RESULTING FROM THE CONTRACTORS VEHICLES, EQUIPMENT, OR OPERATIONS SHALL BE REPLACED BY THE CONTRACTOR.

PAYMENT

PAYMENT FOR THIS ITEM OF WORK SHALL BE PAID FOR BY THE UNIT PRICE BID PER CUBIC YARD OF ITEM SPECIAL - ROADWAY MISC.: EPS GEOFOAM FILL, WHICH PRICE AND PAYMENT INCLUDE ALL MATERIALS, SITE PREPARATION (EXCLUDING EXCAVATION), GRANULAR BASE, GEOMEMBRANE WRAP, TOOLS, EQUIPMENT, AND LABOR TO COMPLETE THIS ITEM OF WORK IN PLACE.

ITEM 605 - ANCHOR ASSEMBLY, MGS TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH REBOUNDABLE RETROREFLECTIVE SHEETING, PER CMS 730.191.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 605, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

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EROSION CONTROL

ITEM 659 - SEEDING AND MULCHING, AS PER PLAN

WHEN THE ABOVE ITEM IS CALLED FOR ON THE PLANS OR IN THE PROPOSAL, ALL APPLICABLE PROVISIONS OF ITEM 659, AS SET FORTH IN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, SHALL APPLY UNLESS MODIFIED HEREIN.

659.01 DESCRIPTION.

THE COST FOR ANY INCIDENTAL GRADING REQUIRED TO PROPERLY PLACE THE TOPSOIL, SEEDING AND MULCHING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 659 - SEEDING AND MULCHING, AS PER PLAN.

659.07 SEEDS.

UNLESS OTHERWISE DIRECTED/APPROVED BY THE ENGINEER, HIGH QUALITY GERMINATION RATES ARE REQUIRED.

659.09 NATIVE GRASSES AND WILDFLOWERS.

UNLESS OTHERWISE DIRECTED/APPROVED BY THE ENGINEER, THE FOLLOWING SEED MIXTURE CLASS(S) SHALL BE USED: CLASS 1

659.10 SITE PREPARATION.

IN ADDITION TO AREAS IN FRONT OF RESIDENCES, COMMERCIAL PROPERTIES, ETC. REFERRED TO IN 659.10(A), THE SPECIAL PREPARATION SHALL BE EXTENDED TO ENCOMPASS ALL LAWNS AND/OR LAWN-LIKE AREAS AS DETERMINED BY THE ENGINEER. REMOVE ALL STONES 1-INCH OR GREATER BY APPROVED METHODS/EQUIPMENT SUCH AS "ROCK HOULDRING", RAKING, ETC.

659.11 PLACING TOPSOIL.

TOPSOIL SHALL BE PLACED AND SPREAD TO A MINIMUM COMPACTED DEPTH OF TWO (2) INCHES. THE FINISHED TOPSOIL SURFACES SHALL BE SEEDED AND MULCHED WITHIN SEVENTY-TWO (72) HOURS OF THEIR ACCEPTED COMPLETION.

659.13 MULCHING OPERATION.

UNLESS OTHERWISE DIRECTED OR APPROVED BY THE ENGINEER, STRAW MULCH (PER 659.14) OR COMPOST MULCH (PER 659.16) SHALL BE USED.

659.17 WATERING.

IN ADDITION TO THE REQUIREMENTS OF 659.17, THE SEED BED SHALL BE KEPT ACCEPTABLY MOIST UNTIL THE SEED HAS GERMINATED; ALL AT THE DIRECTION OR APPROVAL OF THE ENGINEER.

659.23 PERFORMANCE.

THE COUNTY WILL INSPECT ALL SEEDED AREAS NO EARLIER THAN ONE (1) MONTH AND NO LATER THAN NINE (9) MONTHS AFTER FINAL/COMPLETED SEEDING; ALL AT THE DISCRETION/DETERMINATION OF THE ENGINEER.

659.24 METHOD OF MEASUREMENT.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR ITEM 659 - SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

659.25 BASIS OF PAYMENT.

PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR THE ACTUAL COMPLETED AND ACCEPTED QUANTITIES OF:

THE QUANTITY FOR ITEM 659 - SEEDING AND MULCHING, AS PER PLAN IS CALCULATED ON THE CROSS SECTION SHEETS AND ELSEWHERE ON THE PLANS AND CARRIED TO THE GENERAL SUMMARY.

ITEM 832 - EROSION CONTROL

THE FOLLOWING ESTIMATED QUANTITY IS PROVIDED FOR TEMPORARY SEDIMENT AND EROSION CONTROL (TSEC) IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF ODOT SUPPLEMENTAL SPECIFICATION 832:

ITEM 832 - EROSION CONTROL ----- EACH

UNLESS OTHERWISE APPROVED BY THE ENGINEER, DAMAGED FILTER FABRIC FENCE SHALL BE REPLACED IN LIEU OF ANY/ALL METHODS OF REPAIR.

WATER QUALITY

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

VEGETATED FILTER STRIP

THIS PLAN UTILIZES VEGETATED FILTER STRIP(S) FOR POST CONSTRUCTION STORM WATER TREATMENT. PLACE EITHER ITEM 660 SODDING OR ITEM 659 SEEDING AND MULCHING WITH A 4-INCH LIFT OF TOPSOIL AND ITEM 670, SP-LOE EROSION PROTECTION TO ALL DISTURBED AREAS DESIGNATED AS VEGETATED FILTER STRIPS, THE EDGE OF SHOULDER, AND THE FORESLOPE AS SPECIFIED IN THE PLANS.

VEGETATED BIOFILTER

THIS PLAN UTILIZES VEGETATED BIOFILTER(S) FOR POST CONSTRUCTION STORM WATER TREATMENT. PLACE EITHER ITEM 660 SODDING OR ITEM 659 SEEDING AND MULCHING WITH A 4-INCH LIFT OF TOPSOIL AS SHOWN IN THE PLANS TO ANY DISTURBED AREA ON THE SHOULDER AND FORESLOPE DRAINING TO A VEGETATED BIOFILTER. THE DITCH FOR EACH VEGETATED BIOFILTER IS TRAPEZOIDAL, AS SHOWN IN THE PLAN CROSS SECTIONS. PROVIDE ITEM 670 AS SPECIFIED IN THE PLANS.

DRAINAGE

ITEM 611 - STRUCTURES ADJUSTED (RECONSTRUCTED) TO GRADE, AS PER PLAN

611.10 DRAINAGE STRUCTURE CONSTRUCTION. EXCEPT AS NOTED BELOW FOR EXISTING PRECAST SANITARY SEWER MANHOLES, STRUCTURES SHALL BE ADJUSTED OR RECONSTRUCTED TO GRADE USING CLAY BRICKS (704.01), CLASS OC 1 CONCRETE (871) AND/OR CONCRETE MORTAR (602) AS NECESSARY, AND BY RESETTING THE EXISTING FRAME IN A BED OF CONCRETE MORTAR OR CLASS OC 1 CONCRETE. EXCEPT FOR EXISTING PRECAST SANITARY SEWER MANHOLES, NO GRADE RINGS OR METAL ADJUSTING RINGS (CASTINGS) ARE PERMITTED. MAXIMUM CONCRETE MORTAR THICKNESS IS 1-1/2".

EXISTING SANITARY SEWER MANHOLES SHALL BE RECONSTRUCTED TO GRADE USING A FOUR (4) INCH MINIMUM TO TWELVE (12) INCH MAXIMUM DEPTH OF EXISTING AND/OR PROPOSED GRADE RINGS (706.13) IN LIEU OF BRICK OR CLASS OC 1 CONCRETE. GROUT BETWEEN GRADE RINGS AND ON THE OUTSIDE OF THE GRADE RINGS. SET THE MANHOLE FRAME IN A FINISHED MORTAR BED WITH A FLUSH MORTAR JOINT. WHERE NECESSARY, RECONSTRUCTION WORK SHALL BE ACCOMPLISHED BY THE REMOVAL AND/OR ADDITION OF FOUR (4) FOOT DIAMETER PRECAST MANHOLE RISER SECTIONS (706.13). IN ADDITION, APPROVED CHIMNEY SEALS (PER SECTION 5.209E OF THE CUYAHOGA COUNTY UNIFORM STANDARDS FOR SEWERAGE) SHALL BE INSTALLED AFTER THE EXISTING PRECAST SANITARY SEWER MANHOLES HAVE BEEN RECONSTRUCTED TO GRADE.

ITEM 611 - STRUCTURE ADJUST TO GRADE OR RECONSTRUCT TO GRADE WORK SHALL, WHERE REQUIRED, INCLUDE THE REMOVAL AND REPLACEMENT OF ANY EXISTING CONCRETE BLOCKOUT CURB AND/OR PAVEMENT USING MEDIUM SET (CLASS OC MS) CONCRETE OR, IF APPROVED/DIRECTED BY THE ENGINEER, FAST SET (CLASS OC FS) CONCRETE PER 499.03 OF THE SPECIFICATIONS AND THE MODIFICATIONS TO ITEM 499 CONCRETE - GENERAL AS CONTAINED IN THE "SECTION 400 PROPOSAL NOTES" OF THE CUYAHOGA COUNTY ENGINEER SPECIFICATION BOOKLET. TO FACILITATE REMOVAL, THE BLOCKOUT PAVEMENTS SHALL BE SAWS FULL DEPTH (PER 255.03) ALONG THE LIMITS OF THEIR REMOVAL UNLESS OTHERWISE DESIGNATED/DIRECTED BY THE ENGINEER. UNLESS OTHERWISE APPROVED/DIRECTED BY THE ENGINEER, BLOCKOUT PAVEMENT AND LOAD TRANSFER DEVICES SHALL BE REPLACED/INSTALLED IN ACCORDANCE WITH THE CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWINGS(BP-2,7C (MANHOLES) AND C0-3C OR OTHER APPROPRIATE CATCH BASIN DRAWINGS). UNLESS OTHERWISE DIRECTED/APPROVED BY THE ENGINEER, REPLACE EXCAVATED SUBBASE AND SUBGRADE MATERIALS BELOW THE PROPOSED BLOCKOUT PAVEMENT WITH ITEM 613-LOW STRENGTH MORTAR BACKFILL MATERIAL, TYPE 1 EXCEPT THE USE OF FOUNDRY SAND IS STRICTLY PROHIBITED. ALL COSTS ASSOCIATED WITH THE BLOCKOUT REMOVALS/REPLACEMENTS SHALL BE CONSIDERED INCIDENTAL TO THE PER EACH BID ITEMS.

ALL EXISTING CASTINGS FOR STRUCTURES TO BE ADJUSTED OR RECONSTRUCTED TO GRADE SHALL BE FIELD CHECKED AT THE TIME OF CONSTRUCTION AND MARKED SUITABLE FOR SALVAGE AND REUSE OR REPLACED AS DIRECTED BY THE ENGINEER. UNLESS OTHERWISE INDICATED ON THE PLAN, REPLACEMENT CASTINGS ARE PAID UNDER ITEM SPECIAL - MISCELLANEOUS METAL.

THE FOLLOWING GUIDELINES WERE USED TO DETERMINE THE SPECIFIC PLAN LOCATIONS/QUANTITIES OF THE ITEM 611 ADJUST TO GRADE OR RECONSTRUCT TO GRADE WORK:

"ADJUST TO GRADE, AS PER PLAN" INCLUDES ALL WORK SPECIFIED IN 611.10 (D) AS NECESSARY TO RAISE THE EXISTING/NEW CASTING NO MORE THAN ONE (1) FOOT FROM ITS EXISTING ELEVATION OR TO LOWER THE EXISTING/NEW CASTING NO MORE THAN SIX (6) INCHES FROM ITS EXISTING ELEVATION. IN ADDITION, THIS ITEM INCLUDES ANY SUPPORTING WALL REPAIR WORK NECESSARY, UP TO SIX (6) INCHES BELOW THE TOP OF THE EXISTING SUPPORTING WALL.

PAYMENT WILL BE MADE UNDER THE APPROPRIATE STRUCTURE (ITEM 611) ADJUSTED TO GRADE, AS PER PLAN.

"RECONSTRUCT TO GRADE, AS PER PLAN" INCLUDES ALL WORK SPECIFIED IN 611.10 (C) AND ALSO INCLUDES EXISTING/NEW CASTINGS RAISED MORE THAN ONE (1) FOOT FROM THEIR EXISTING ELEVATION OR LOWERED MORE THAN SIX (6) INCHES FROM THEIR EXISTING ELEVATION.

THE WORK LIMIT SHALL BE SPECIFIED BY THE ENGINEER AND PAYMENT WILL BE MADE UNDER THE APPROPRIATE STRUCTURE (ITEM 611) RECONSTRUCTED TO GRADE, AS PER PLAN.

BASED ON THE ABOVE GUIDELINES, THE ENGINEER WILL EXAMINE EACH STRUCTURE TO ASSURE THAT THE APPROPRIATE ITEM 611 ADJUST TO GRADE OR RECONSTRUCT TO GRADE WORK IS PERFORMED.

"RECONSTRUCT TO GRADE, AS PER PLAN" WORK SHALL NOT BE PERFORMED UNLESS SPECIFICALLY INDICATED IN THE PLANS OR OTHERWISE ORDERED BY THE ENGINEER. ANY SUCH WORK MADE NECESSARY DUE TO THE CONTRACTOR'S NEGLIGENT OPERATIONS, AS DETERMINED BY THE ENGINEER, SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

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DRAINAGE (CONT.)

ITEM 611 - CONDUITS, AS PER PLAN
ITEM 611 - STRUCTURES, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ITEM 611, AS SET FORTH IN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE FOLLOWING ADDITIONAL RESTRICTIONS SHALL BE MET FOR ITEM 611 - CONDUITS, AS PER PLAN AND ITEM 611 - STRUCTURES, AS PER PLAN:

611.02 (A): DO NOT USE NON-REINFORCED CONCRETE PIPE (706.01) AND VITRIFIED CLAY PIPE (706.08). USE CLASS III MINIMUM FOR REINFORCED CONCRETE CIRCULAR PIPE (706.02). USE CLASS HE-III MINIMUM FOR REINFORCED CONCRETE ELLIPTICAL PIPE (706.04).

611.02 (B): MAXIMUM ALLOWABLE SIZE FOR NON-REINFORCED CONCRETE PIPE (706.01) IS 21". USE CLASS III MINIMUM FOR REINFORCED CONCRETE CIRCULAR PIPE (706.02). USE CLASS HE-III MINIMUM FOR REINFORCED CONCRETE ELLIPTICAL PIPE (706.04). MAXIMUM ALLOWABLE SIZE FOR VITRIFIED CLAY PIPE (706.08) IS 15".

611.02 (C): USE CLASS 3 MINIMUM FOR NON-REINFORCED CONCRETE CIRCULAR PIPE (706.01) WITH A MAXIMUM ALLOWABLE SIZE OF 21". MAXIMUM ALLOWABLE SIZE FOR VITRIFIED CLAY PIPE (706.08) IS 15" AND ONLY EXTRA STRENGTH WILL BE USED.

FOR TYPE B AND TYPE C CONDUITS, FLEXIBLE PVC PIPE USED FOR MAIN LINE AND SERVICE LATERAL SEWER PIPE SHALL ALSO MEET THE REQUIREMENTS OF THE "UNIFORM STANDARDS FOR SEWERAGE IMPROVEMENTS" AND "UNIFORM STANDARDS SEWER DETAILS" AS FOUND AT THE FOLLOWING WEBSITES:

<https://www.cuyahogacounty.gov/publicworks/services/design-and-construction/sanitary-design/sanitary-design-construction-drawings-and-standards>

STORM SEWER MANHOLES CONSTRUCTED FOR THIS PROJECT SHALL HAVE A CUYAHOGA COUNTY NO. 9 FRAME AND EITHER A NO. 28 COVER OR A NO. 37 COVER AS DETAILED ON THE CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWINGS MH-10C AND MH-11C. STRUCTURAL BACKFILL MATERIAL (703.11) FURNISHED FOR BEDDING AND BACKFILL OPERATIONS SHALL BE LIMITED TO CRUSHED CARBONATE STONE. ALL OTHER EMBANKMENT MATERIAL (203.02.R) FURNISHED FOR NON-STRUCTURAL BACKFILL OPERATIONS SHALL BE LIMITED TO NATURAL GRANULAR MATERIAL (203.02.H) AND RECYCLED PORTLAND CEMENT CONCRETE (RPCC). IN ADDITION TO THE REQUIREMENTS OF 703.16, THE USE OF RPCC IS SUBJECT TO THE RESTRICTIONS OF 203.03(B) AND 203.03(E). BEDDING SHALL BE PLACED AND COMPACTED PER 611.06. THE METHOD OF BACKFILLING SHALL BE PER 611.06. AT THE DIRECTION OF THE ENGINEER AND WITH THE APPROVAL OF THE MAINTAINING AGENCY, ITEM 613 - LOW STRENGTH MORTAR BACKFILL (TYPE 2), AS PER PLAN MAY BE USED IN LIEU OF OR IN CONJUNCTION WITH THE SPECIFIED STRUCTURAL AND NON-STRUCTURAL BACKFILL MATERIAL. SEE THE ITEM 613 - LOW STRENGTH MORTAR BACKFILL (TYPE 2), AS PER PLAN PROPOSAL NOTE CONTAINED IN SECTION 400 OF THE "CUYAHOGA COUNTY ENGINEER SPECIFICATION BOOKLET".

FOR ALL SANITARY SEWER INSTALLATIONS UNDER PAVEMENT (MANHOLES, LATERALS, ETC.), BACKFILL MATERIAL FURNISHED FOR BEDDING AND BACKFILL OPERATIONS SHALL BE LIMITED TO ITEM 613 - LOW STRENGTH MORTAR BACKFILL (TYPE 2), AS PER PLAN (SEE THE ITEM 613 - LOW STRENGTH MORTAR BACKFILL (TYPE 2), AS PER PLAN PROPOSAL NOTE CONTAINED IN SECTION 400 OF THE "CUYAHOGA COUNTY ENGINEER SPECIFICATION BOOKLET"). PRECAST CONCRETE SANITARY MANHOLES FOR 42" PIPE AND SMALLER SHALL MEET THE REQUIREMENTS OF THE CURRENT "UNIFORM STANDARDS FOR SEWERAGE IMPROVEMENTS" AND "UNIFORM STANDARDS SEWER DETAILS" AS FOUND AT THE FOLLOWING WEBSITES:

<https://www.cuyahogacounty.gov/publicworks/services/design-and-construction/sanitary-design/sanitary-design-construction-drawings-and-standards>

PROVIDE 706.11 JOINTS FOR ALL CONCRETE PIPE (706.01, 706.02, 706.04 AND 706.05) AND FOR ALL PRECAST MANHOLE OR CATCH BASIN SECTIONS. PROVIDE 706.12 JOINTS FOR VITRIFIED CLAY PIPE (706.08 EXTRA STRENGTH).

ITEM 605 - 6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC, AS PER PLAN

THE FOLLOWING PIPE MATERIAL TYPES MAY BE USED FOR SIX (6) INCH PERFORATED UNDERDRAIN PIPE: 706.06, 706.08, 707.31, 707.41, 707.42 (PERFORATED PER 707.31) AND 707.45 (PERFORATED PER 707.31).

THE FOLLOWING SMOOTH INTERIOR-WALLED PIPE MATERIAL TYPES MAY BE USED FOR FOUR (4) INCH PERFORATED UNDERDRAIN PIPE: 706.06, 706.08, 707.41, 707.42 (PERFORATED PER 707.31) AND 707.45 (PERFORATED PER 707.31).

THE SIZE OF UNDERDRAIN PIPE SHALL NOT BE REDUCED FROM THE SIZE SPECIFIED IN THE PLANS/PROPOSAL.

GRANULAR BACKFILL MATERIAL SHALL BE LIMITED TO LIMESTONE.

THE GEOTEXTILE FABRIC SHALL BE A NON-WOVEN OR MONOFILAMENT WOVEN GEOTEXTILE FABRIC MEETING THE REQUIREMENTS OF AASHTO M 288, TABLE 1 (CLASS 3) AND TABLE 2.

WHEN ENCOUNTERED WITHIN THE PROPOSED UNDERDRAIN TRENCH EXCAVATION, THE COST FOR REMOVAL AND DISPOSAL OF EXISTING UNDERDRAIN PIPE SHALL BE INCLUDED UNDER THIS ITEM.

SEE DETAIL ON THE CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWING MD-1C.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, NOTIFY THE ENGINEER BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, NOTIFY THE ENGINEER BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE IS INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

ITEM 611 - CATCH BASIN MISC.: CUYAHOGA COUNTY 3C

THIS ITEM CONSISTS OF FURNISHING AND INSTALLING A CUYAHOGA COUNTY 3C CATCH BASIN IN ACCORDANCE WITH CUYAHOGA COUNTY STANDARD CONSTRUCTION DRAWING CB-3C, COMPLETE IN PLACE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR ITEM 611 - CATCH BASIN MISC.: CUYAHOGA COUNTY 3C, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL CATCH BASIN IN ACCORDANCE WITH THE REQUIREMENTS OF THE CUYAHOGA COUNTY DEPARTMENT OF PUBLIC WORKS.

PAVEMENT

ITEMS 302, 441, TYPE 1, (448), PG70-22M, 441, TYPE 2, (448), 441, TYPE 1, (449), PG64-22, AS PER PLAN

USE OF RECLAIMED ASPHALT CONCRETE PAVEMENT IS LIMITED TO A MAXIMUM OF 10% FOR SURFACE COURSES. USE OF RECLAIMED ASPHALT SHINGLES ARE NOT PERMITTED IN ANY ASPHALT CONCRETE COURSE.

THE COARSE AGGREGATE SHALL CONFORM TO 703.04 AND/OR 703.05 B, AS APPLICABLE, EXCEPT THAT GRAVEL WILL NOT BE PERMITTED. AIR-COOLED BLAST FURNACE SLAG AND STEEL SLAG ARE NOT PERMITTED AS WELL.

PRIOR TO PRODUCING THE ASPHALT CONCRETE FOR THIS CONTRACT, SUBMIT A JOB MIX FORMULA (JMF) FOR APPROVAL BY THE ENGINEER. USE A JMF THAT MEETS ALL REQUIREMENTS ESTABLISHED IN THE CONTRACT AND HAS PREVIOUSLY BEEN APPROVED FOR USE ON ODOT WORK, WHERE NO PREVIOUSLY APPROVED (BY ODOT) JMF IS AVAILABLE, DEVELOP A JMF MEETING ALL CRITERIA ESTABLISHED IN THE CONTRACT AND HAVE IT REVIEWED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY PRIOR TO SUBMISSION TO THE ENGINEER. THE INDEPENDENT TESTING LABORATORY SHALL HAVE APPROPRIATELY APPROVED PERSONNEL AND TESTING EQUIPMENT PER ODOT SUPPLEMENT 1041. ALL COST ASSOCIATED WITH THE ABOVE SHALL BE INCLUDED IN THE CUBIC YARD COST OF THE ASPHALT CONCRETE BID ITEMS).

SAMPLING FOR VERIFICATION ACCEPTANCE (703.06.A) SHALL BE PERFORMED IN ACCORDANCE WITH ODOT SUPPLEMENT 1035 FOR ALL 448 ACCEPTANCE MIXES.

UNLESS OTHERWISE DIRECTED/APPROVED BY THE ENGINEER, CONDUCT DENSITY GAUGE QUALITY CONTROL TESTING ON BOTH THE ITEM 441 ASPHALT CONCRETE SURFACE COURSE AND INTERMEDIATE COURSE MATS ACCORDING TO ODOT SUPPLEMENT 1055 REGARDLESS OF THE NUMBER OF LANES OR LENGTH OF CONTINUOUS PAVING.

ITEM 304 - AGGREGATE BASE, AS PER PLAN

MATERIAL FURNISHED FOR THIS ITEM SHALL BE LIMITED TO CRUSHED CARBONATE STONE.

ITEM 609 - CURB, TYPE 4-C, AS PER PLAN

THE "CLASS OC 1" OR "CLASS OC MISC." CONCRETE SHALL CONFORM TO THE "MODIFICATIONS TO ITEM 499 CONCRETE - GENERAL" AS CONTAINED IN THE "SECTION 400 PROPOSAL NOTES" OF THE "CUYAHOGA COUNTY ENGINEER SPECIFICATION BOOKLET".

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GENERAL NOTES
CUI-SHELDON RD.
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ITEM 614 - MAINTAINING TRAFFIC

THE MAKING OF THIS IMPROVEMENT REQUIRES THAT THE ROAD BE CLOSED TO THROUGH TRAFFIC. DETOURS SHALL BE AS SHOWN ON SHEET NO. 13.

THE CONTRACTOR SHALL MAINTAIN SAFE AND SATISFACTORY ACCESS TO ABUTTING PROPERTY. THE CONTRACTOR SHALL MAINTAIN ADEQUATE PEDESTRIAN WALKS AT ALL INTERSECTIONS, INCLUDING ASPHALT CONCRETE WALKS, WHERE DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL DIVERT TRAFFIC FROM NORMAL CHANNELS BY PLASTIC DRUMS, (FLASHING ARROW BOARDS COMPLYING WITH 55821.) AND TRAFFIC SIGNS AND WORK ZONE PAVEMENT MARKINGS, AS SHOWN ON SHEET 13.

ALL CONSTRUCTION TRAFFIC CONTROL DEVICES USED FOR THIS PROJECT SHALL CONFORM TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AND SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR, EXCEPT AS NOTED BELOW.

THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY SAFEGUARDS, SUCH AS TYPE III BARRICADES, LIGHTING, FLAGGERS, AND SUCH OTHER TRAFFIC CONTROL DEVICES AS PROVIDED IN ITEM 614, MAINTAINING TRAFFIC, SO AS TO AVOID DAMAGE AND/OR INJURY TO VEHICLES AND PERSONS USING THE ROADWAY DURING CONSTRUCTION.

EXISTING TRAFFIC CONTROL DEVICES (SIGNS AND/OR TRAFFIC SIGNALS), LOCATED WITHIN THE WORK AREA, WHICH ARE REQUIRED FOR INTERIM OR PERMANENT TRAFFIC CONTROL, SHALL BE RELOCATED TO POINTS APPROVED BY THE ENGINEER. APPROPRIATE TRAFFIC CONTROL DEVICES SHALL BE MAINTAINED, IN COMPLIANCE WITH THE MANUAL, AT ALL TIMES WHILE TRAFFIC IS MAINTAINED. THE COST OF RELOCATION, IF REQUIRED, SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

THE LENGTH AND DURATION OF LANE CLOSURES AND/OR TRAFFIC RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. THE INTENT IS TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614 - MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

DETOUR LIMITATION:

TWO-WAY TRAFFIC WITH A MINIMUM OF ONE LANE IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 210 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 13. LIQUIDATED DAMAGES SHALL BE ASSESSED (IN ACCORDANCE WITH SECTION 108.07 OF THE CUYAHOGA COUNTY ENGINEER'S GENERAL PROVISIONS) (IN THE AMOUNT OF \$900 PER DAY) FOR EACH CALENDAR DAY THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT, WHICH LIMIT SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE FOR THE PURPOSE OF THIS NOTE.

NOTIFICATION

THE CONTRACTOR SHALL NOTIFY IN WRITING THE FOLLOWING AGENCIES AT LEAST TWO (2) WEEKS PRIOR TO THE START OF CONSTRUCTION, AND AT LEAST 72 HOURS BEFORE IMPLEMENTING ANY SUBSTANTIAL CHANGE IN TRAFFIC PATTERN OR CLOSING ANY STREET TO TRAFFIC:

- THE CUYAHOGA COUNTY DEPARTMENT OF PUBLIC WORKS - PUBLIC INFORMATION OFFICER
- THE CUYAHOGA COUNTY BOARD OF DEVELOPMENTAL DISABILITIES
- THE UNITED STATES POSTAL SERVICE, MIDPARK BRANCH
- THE BEREA CITY SCHOOL DISTRICT BOARD OF EDUCATION
- THE CITY OF BROOK PARK AND CITY OF MIDDLEBURG HEIGHTS POLICE, FIRE AND SERVICE DEPARTMENTS

CONSTRUCTION TRAFFIC

ALL CONSTRUCTION TRAFFIC SHALL USE ACCEPTABLE TRUCK ROUTES TO ACCESS THE CONSTRUCTION AREA. USE OF LOCAL RESIDENTIAL STREETS IS STRICTLY PROHIBITED UNLESS ALLOWED IN WRITING BY THE LOCAL ENFORCEMENT AUTHORITY.

ITEM 614 - DETOUR SIGNING, AS PER PLAN

ADVANCE TRAFFIC SIGNING AND SUPPORTS, INCLUDING DETOUR SIGNING, CONSTRUCTION WORK ZONE APPROACH SIGNING, BARRICADES AND SIGNS SHOWN ON THE PLANS BEYOND THE WORK LIMITS SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR, AND ALL ASSOCIATED COSTS SHALL BE INCLUDED IN THE LUMP SUM BID ITEM 614 - DETOUR SIGNING, AS PER PLAN.

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE OMTUCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&S 614 AND THE OMTUCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.
- DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G. DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&S 614 AND THE OMTUCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) MAY BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&S 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE - 24 HOURS.

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

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MAINTENANCE OF TRAFFIC NOTES

CUY-SHELDON RD.

PORTABLE CHANGEABLE MESSAGE SIGNS

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, TWO (2) CHANGEABLE MESSAGE SIGNS (PCMS), ON SITE, WITH A MINIMUM LEGIBILITY DISTANCE OF 475 FEET, FOR 1 MONTH.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONING DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. PCMS TRAILERS SHALL BE DELINEATED ON A PERMANENT BASIS BY AFFIXING CONSPICUITY TAPE CONFORMING TO ODOT 614.03, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS. THE PCMS SHALL BE LOCATED BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM TRAFFIC.

ALL MESSAGES TO BE DISPLAYED ON THE PCMS WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE PCMS SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD.

THE PCMS SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF ODOT 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND/OR THE CITY TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THE PCMS FOR THE DURATION OF PROJECT SITE SERVICE.

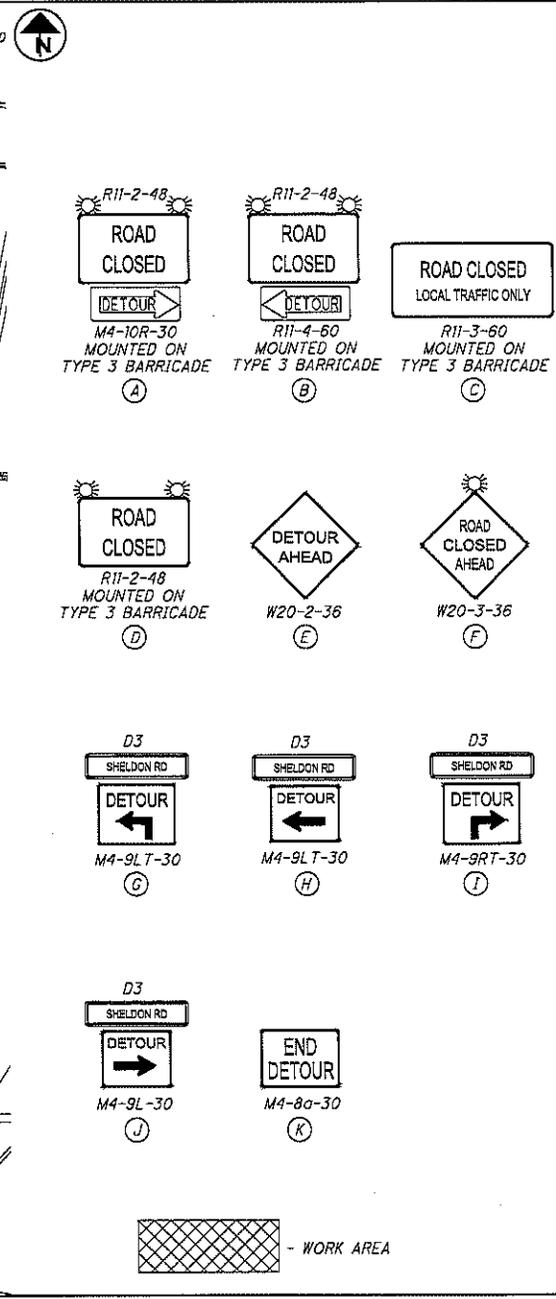
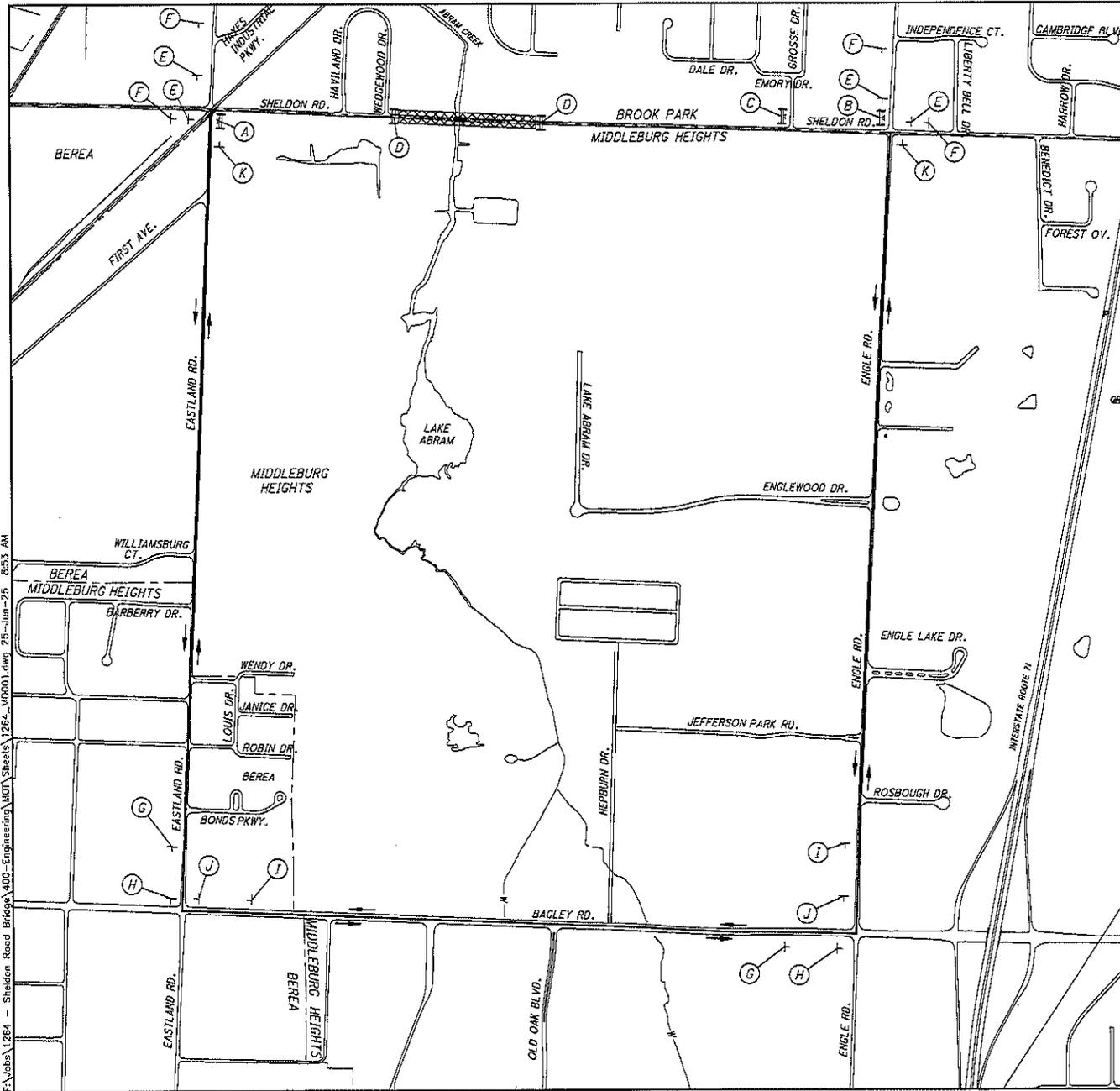
THE FOLLOWING QUANTITY IS PROVIDED:

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 2 SNMT
ASSUMING 2 PCMS SIGNS FOR 1 MONTH

PAYMENT FOR THIS ITEM, INCLUDING, BUT NOT LIMITED TO ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE, AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN.

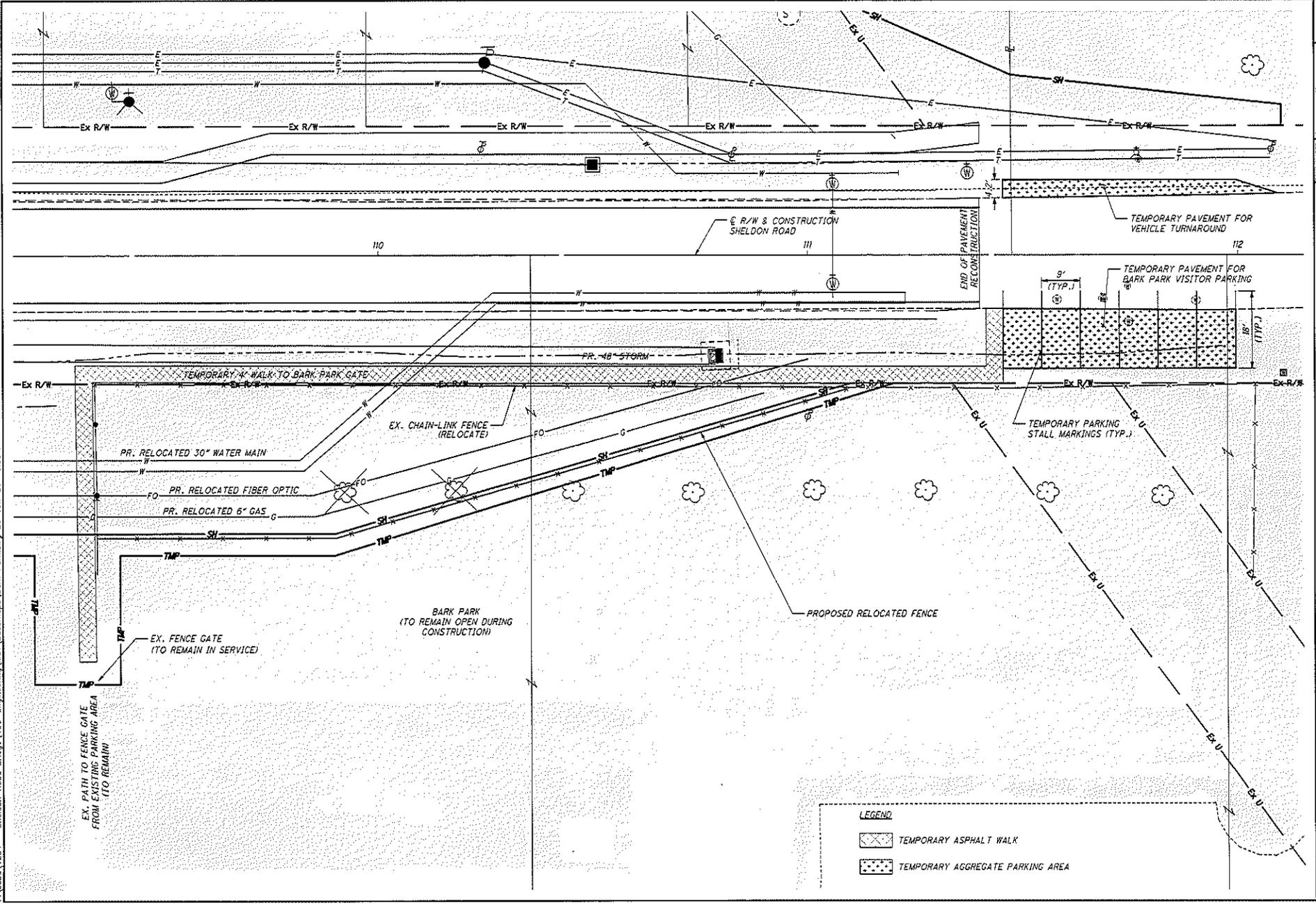
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DETOUR PLAN
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30'
 HORIZONTAL
 SCALE IN FEET

NORTH
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MAINTENANCE OF TRAFFIC - BARK PARK
 TEMPORARY PARKING & ACCESS

CUY-SHELDON RD.

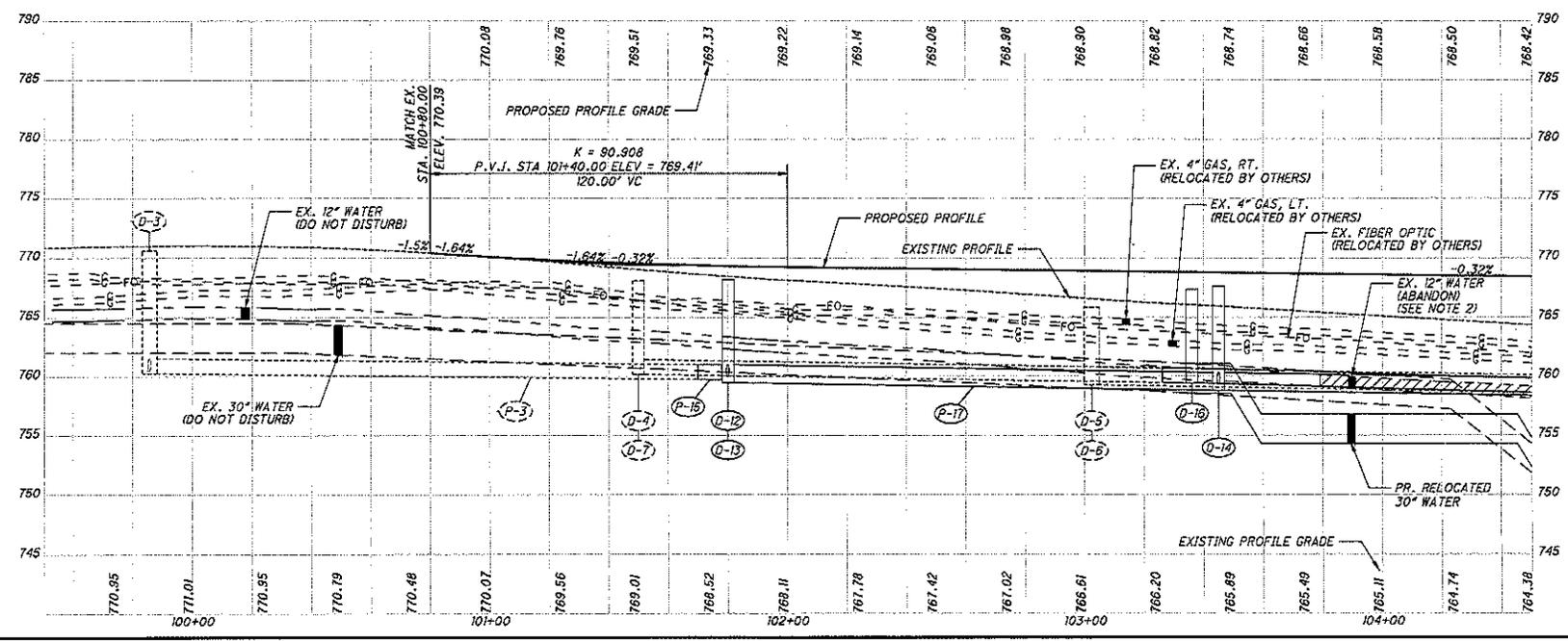
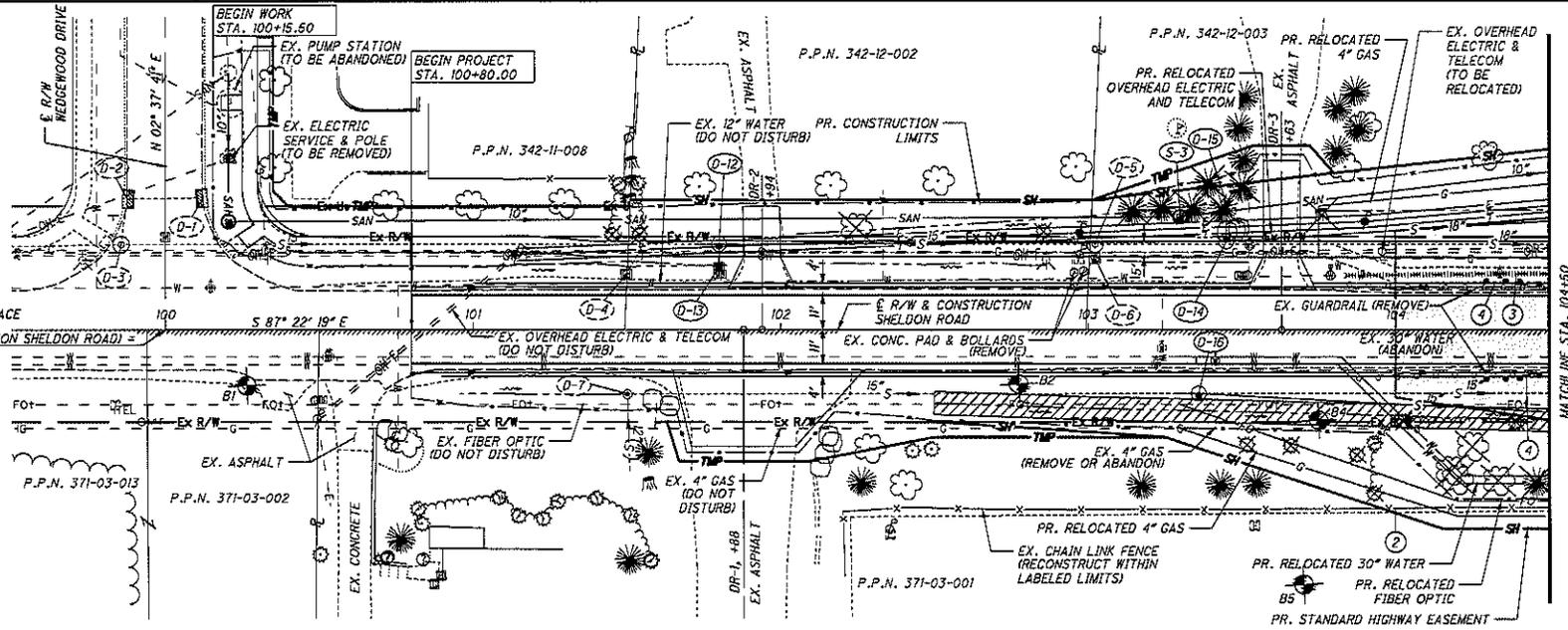
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LEGEND

- ① PR. GUARDRAIL, TYPE MGS
- ② EXISTING FENCE TO BE RECONSTRUCTED, BEGIN STA. 104+00
- ③ EX. 12" WATER (ABANDON)
- ④ PR. ANCHOR ASSEMBLY, MGS TYPE E
- VEGETATED BIOFILTER
- EX. DRAINAGE STRUCTURE
- PR. DRAINAGE STRUCTURE
- MAILBOX - REMOVE & REPLACE

NOTES:

1. FOR COMPLETE STORM SEWER INFORMATION, SEE SHEETS 30-32.
2. EXISTING 12" WATER ON NORTH SIDE HAS PREVIOUSLY BEEN ABANDONED FROM APPROXIMATELY STA. 104+44 TO STA. 106+44.



LEGEND

- PROF. LIGHTWEIGHT EMBANKMENT FOOTPRINT

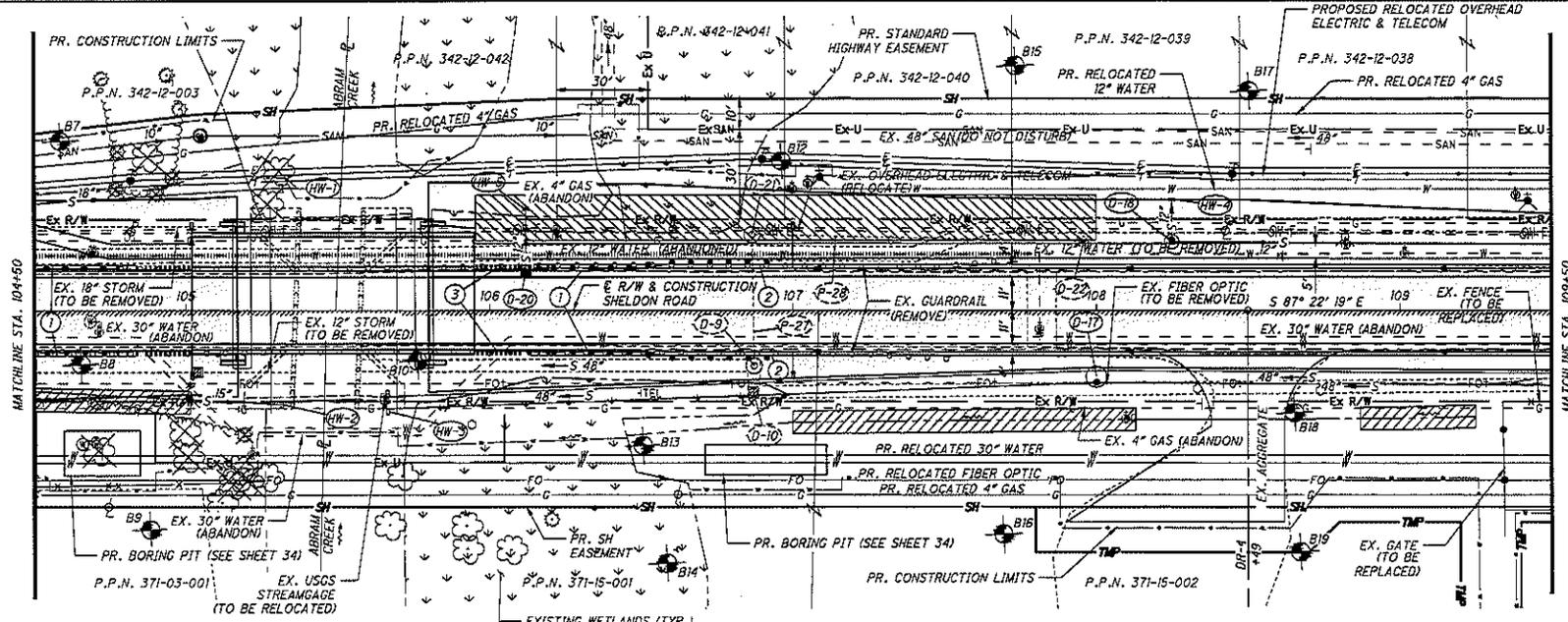


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PLAN AND PROFILE
 STA. 99+50 TO STA. 104+50

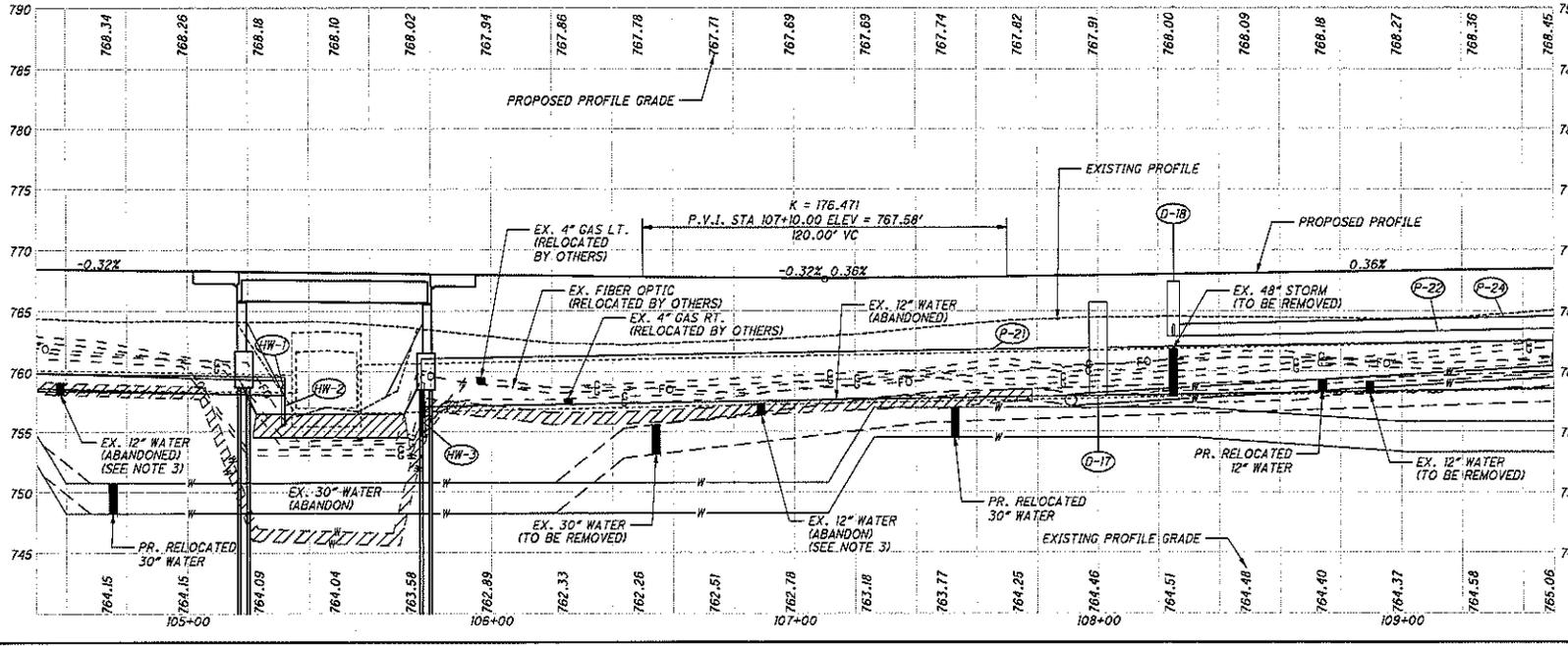
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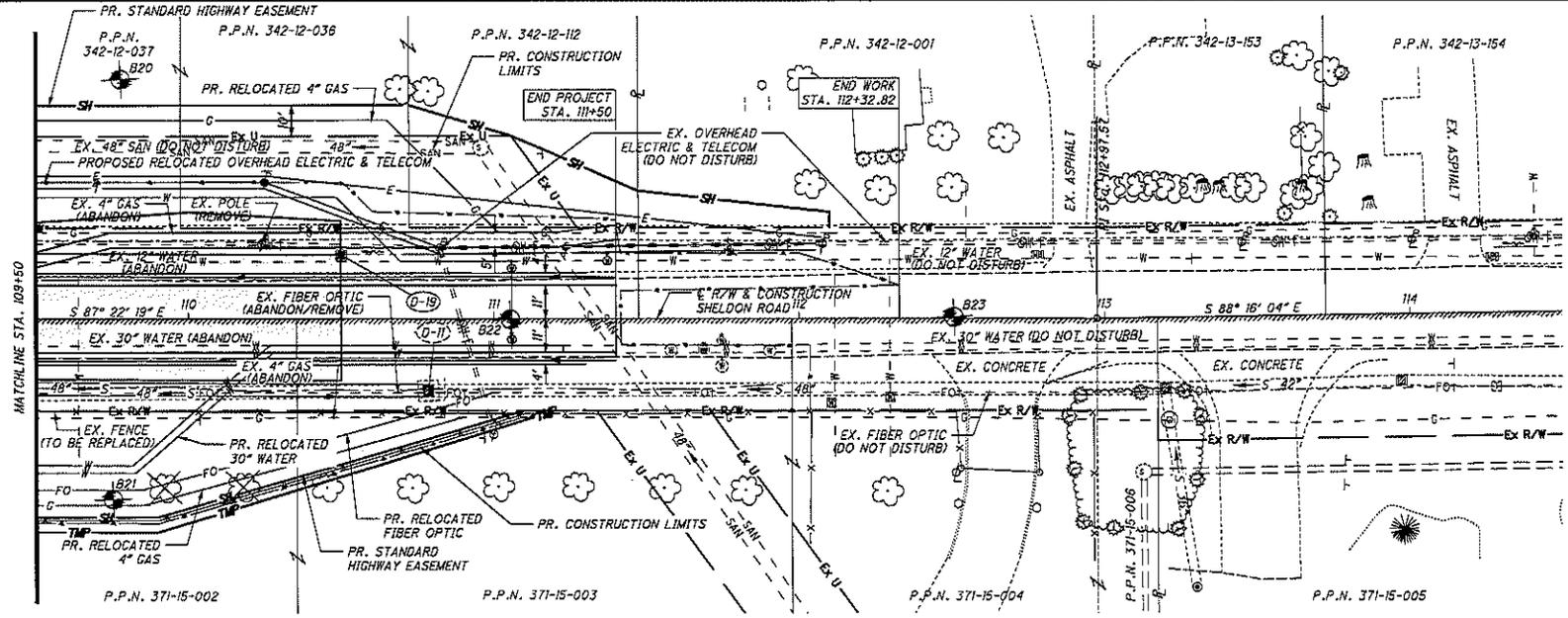
- NOTES:**
1. ALL UNDERGROUND RELOCATED UTILITIES TO BE TRENCHLESS CONSTRUCTION WITHIN ABRAM CREEK AND WETLAND LIMITS.
 2. FOR COMPLETE STORM SEWER INFORMATION, SEE SHEETS 30-32.
 3. EXISTING 12" WATER ON NORTH SIDE HAS PREVIOUSLY BEEN ABANDONED FROM APPROXIMATELY STA. 104+44 TO STA. 106+44.

- LEGEND**
- ① PR. GUARDRAIL, TYPE MGS
 - ② PR. ANCHOR ASSEMBLY, MGS TYPE E
 - ③ PR. BRIDGE TERMINAL ASSEMBLY, TYPE 1
 - VEGETATED BIOFILTER
 - VEGETATED FILTER STRIP
 - WETLANDS
 - PROP. LIGHTWEIGHT EMBANKMENT FOOTPRINT



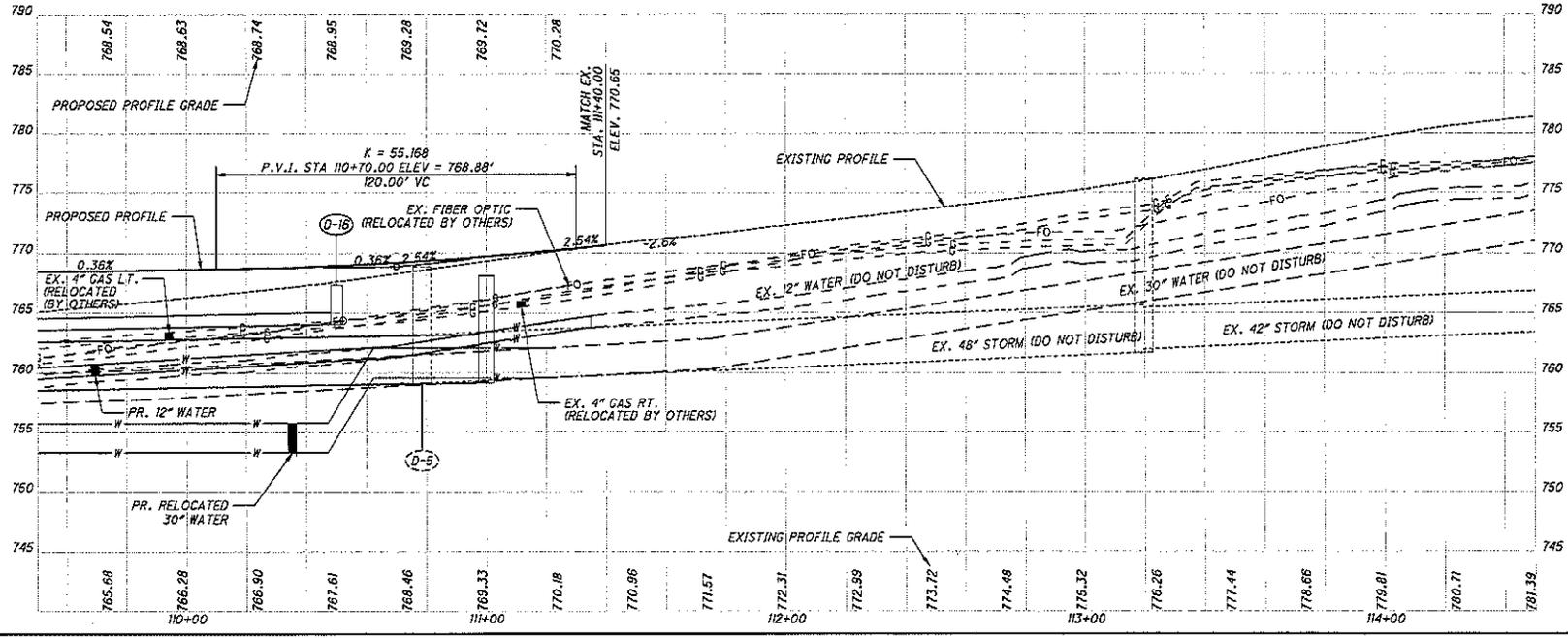
PLAN AND PROFILE
STA. 104+50 TO STA. 109+50

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NOTES:
 1. FOR COMPLETE STORM SEWER INFORMATION, SEE SHEETS 30-32.

PROP. LIGHTWEIGHT EMBANKMENT FOOTPRINT



VERTICAL SCALE IN FEET
 HORIZONTAL SCALE IN FEET

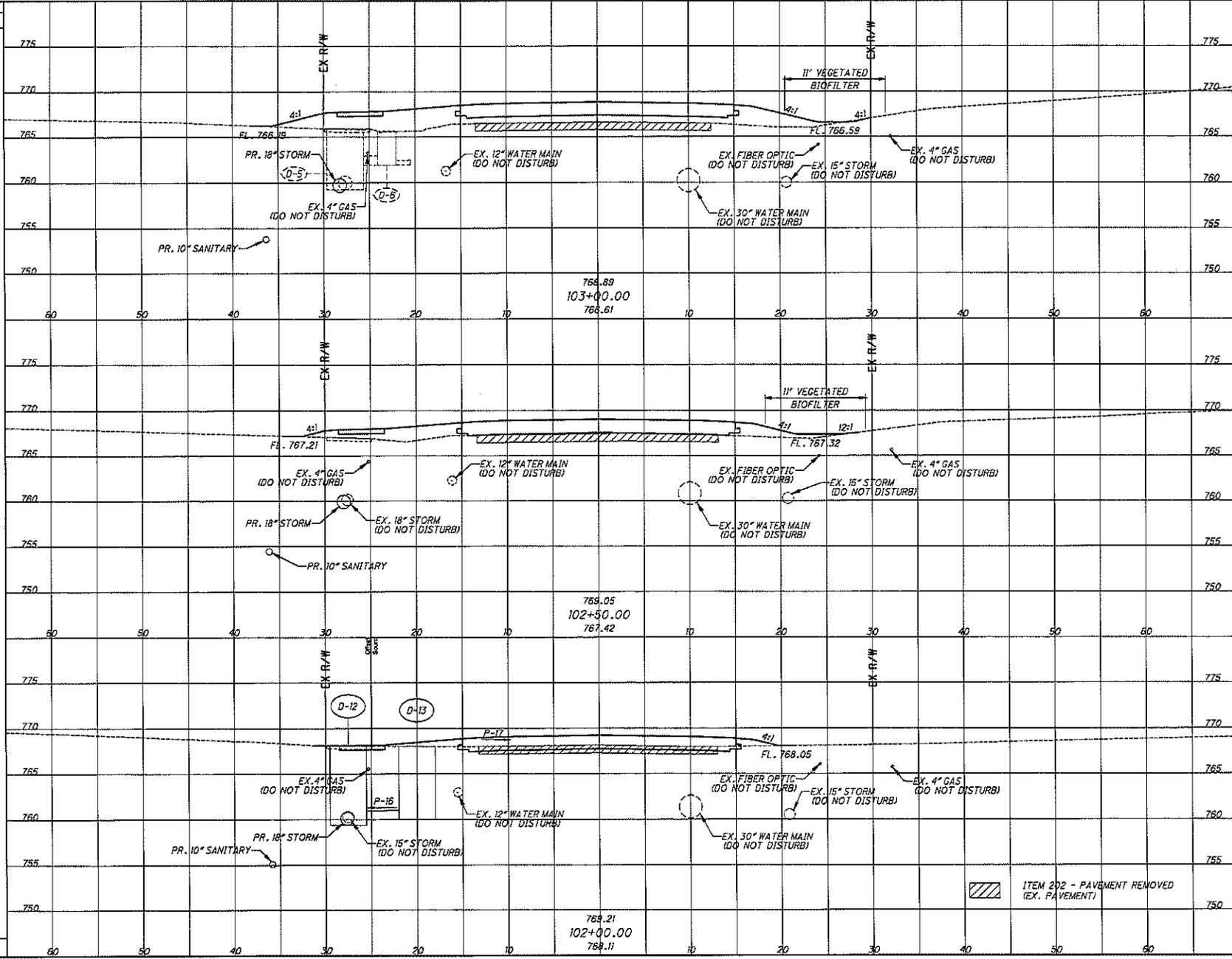
PLAN AND PROFILE
 STA. 109+50 TO STA. 114+50

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SEEDING
 100' SQ.
 WIDTH YDS.

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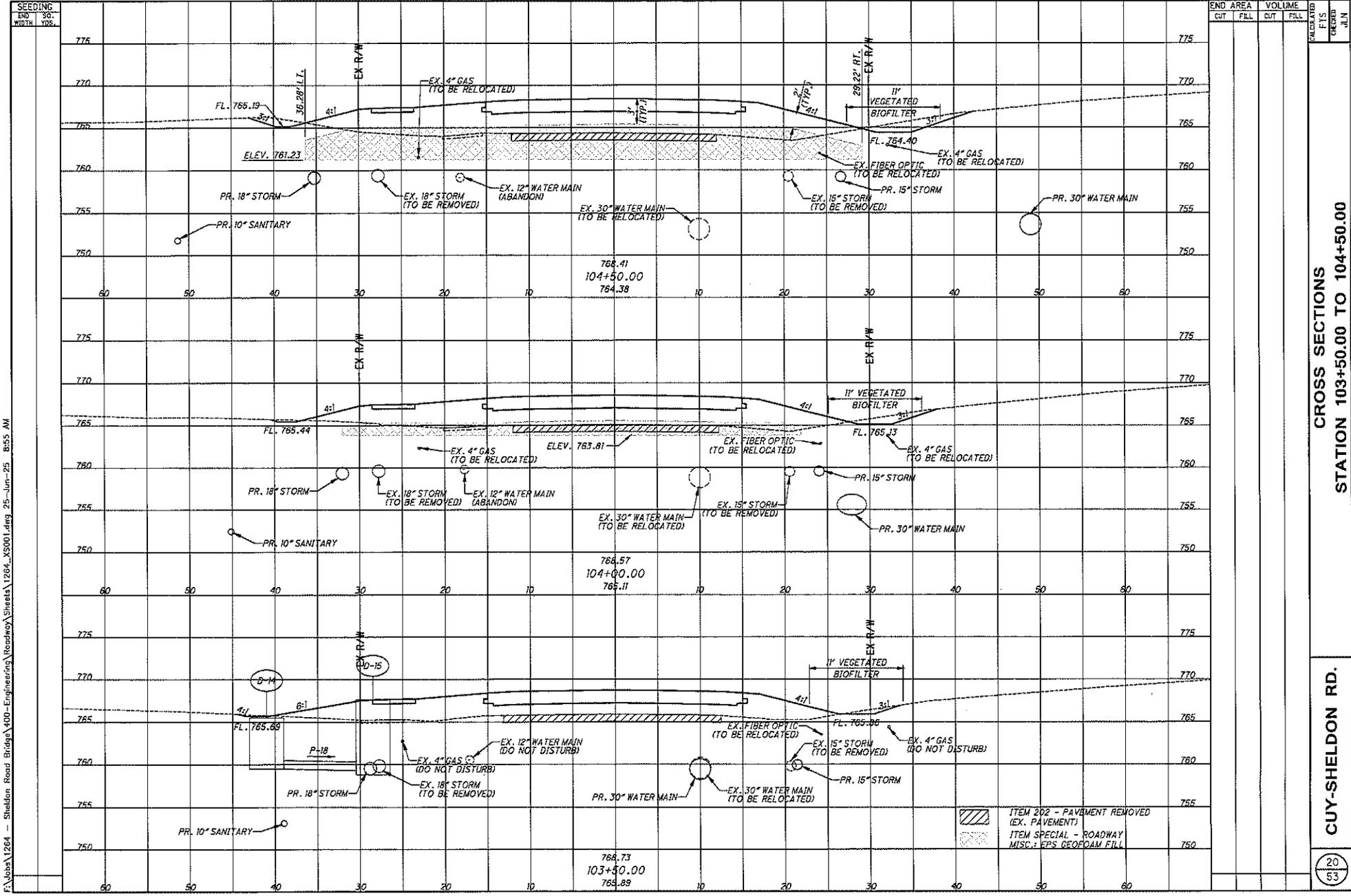


END AREA		VOLUME		CALCULATED	CHECKED	DATE
CUT	FILL	CUT	FILL			

CROSS SECTIONS
 STATION 102+00.00 TO 103+00.00

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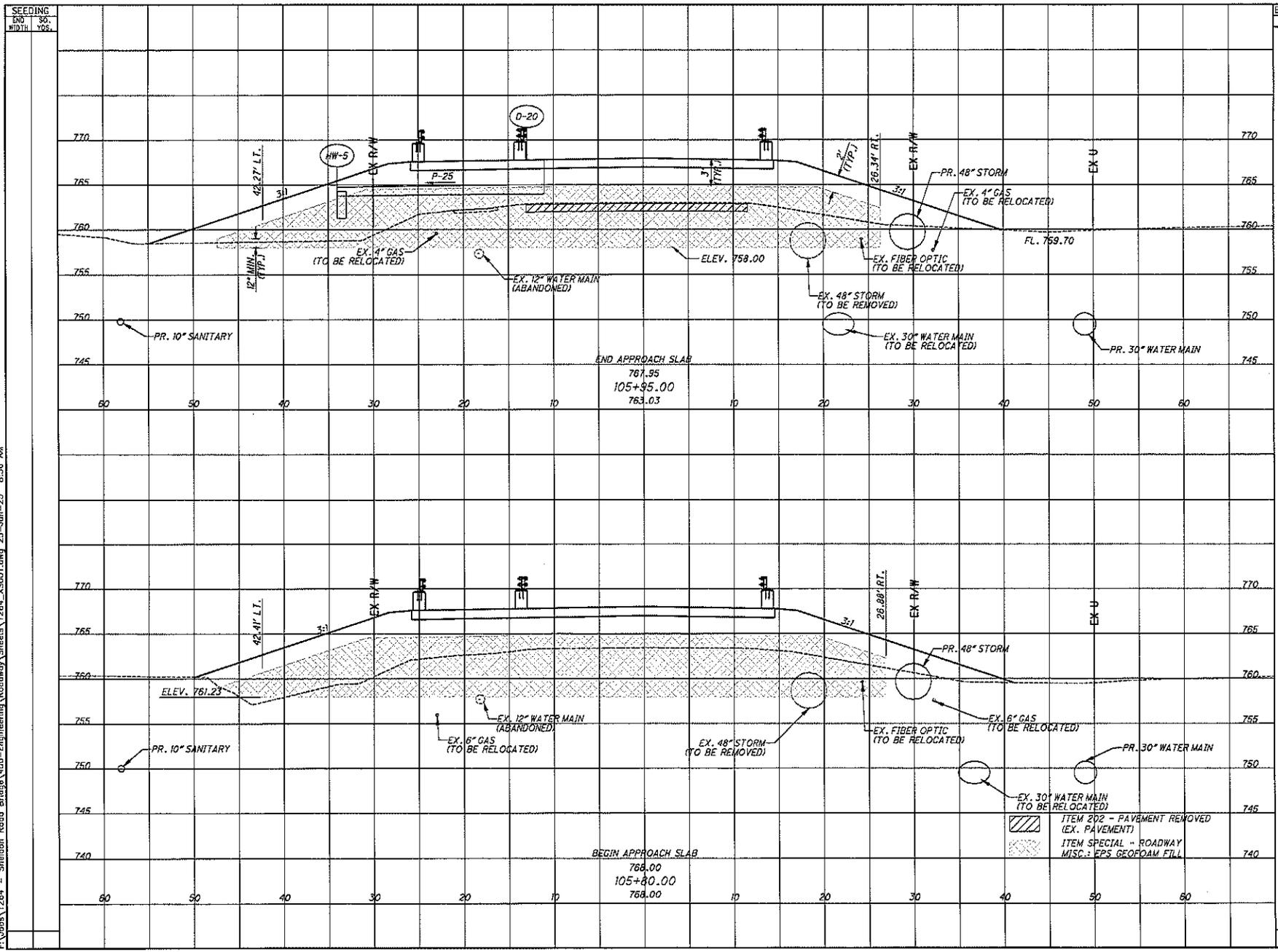
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**CROSS SECTIONS
STATION 103+50.00 TO 104+50.00**

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	CUT	FILL			

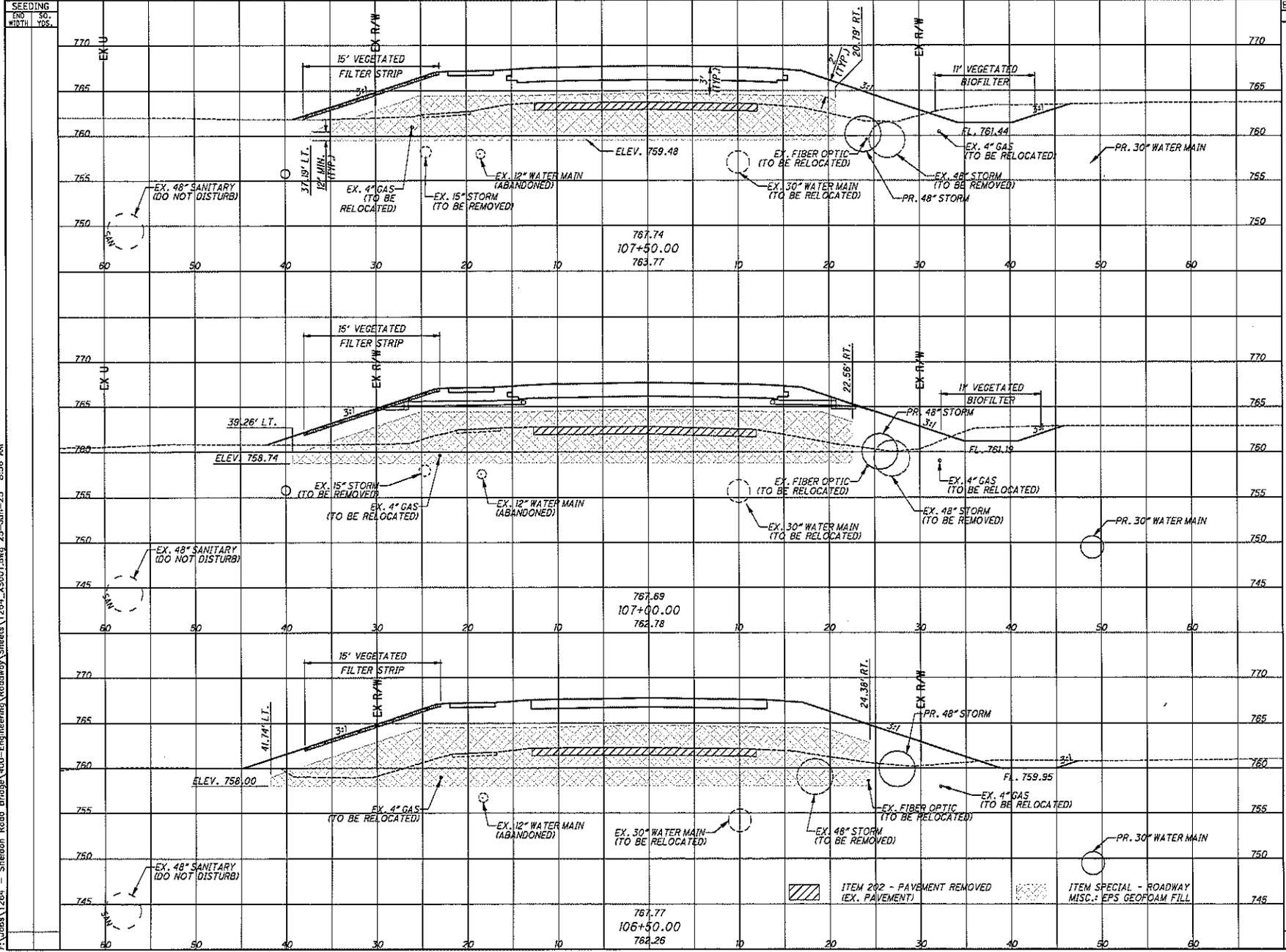
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CROSS SECTIONS	
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CUY-SHELDON RD.	
22	53

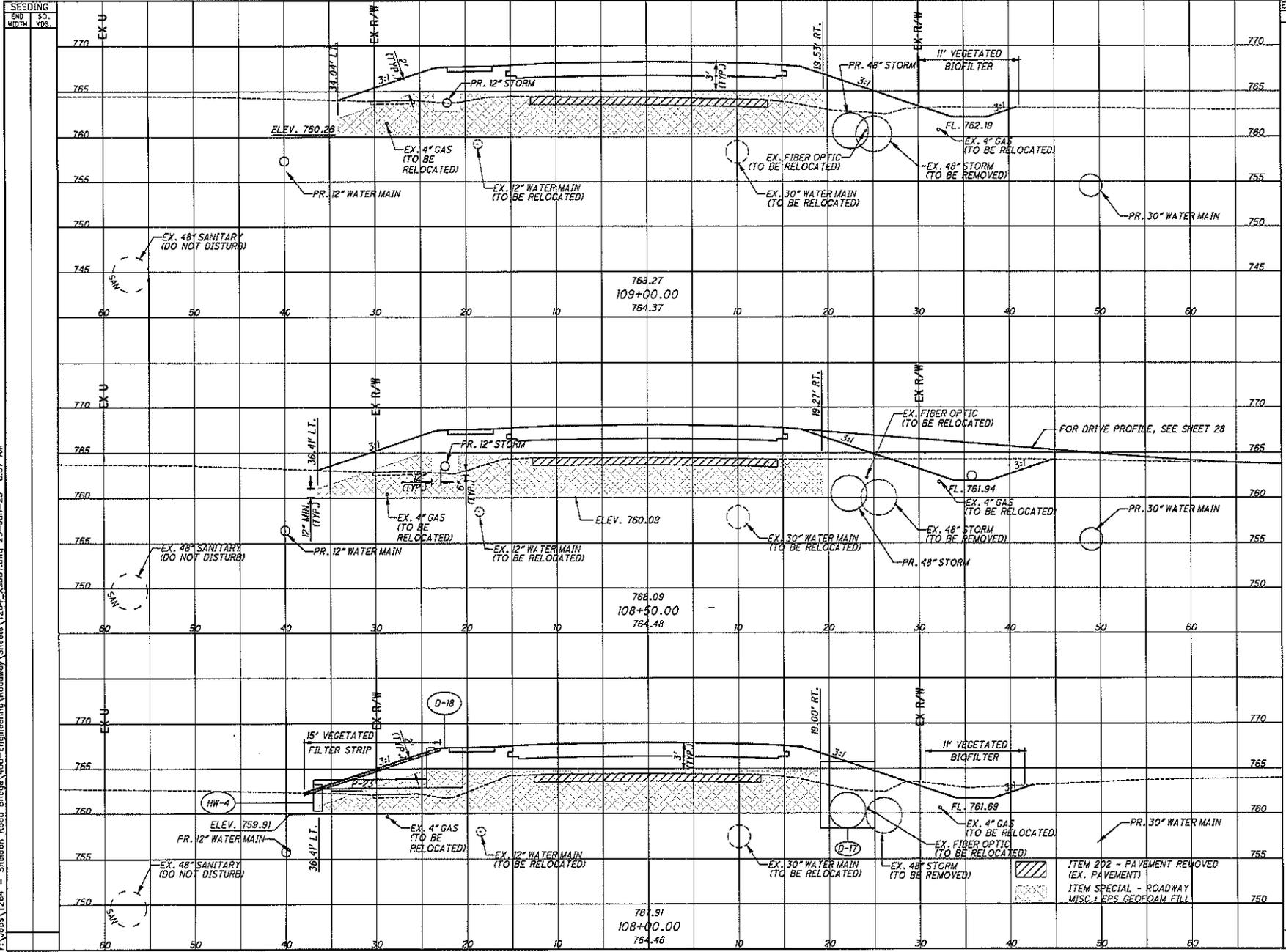
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SEEDING		END AREA		VOLUME		CALCULATED	
FOOT	WIDTH	EUT	FILL	CUT	FILL	E.T.S	CREATED
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CROSS SECTIONS
 STATION 106+50.00 TO 107+50.00
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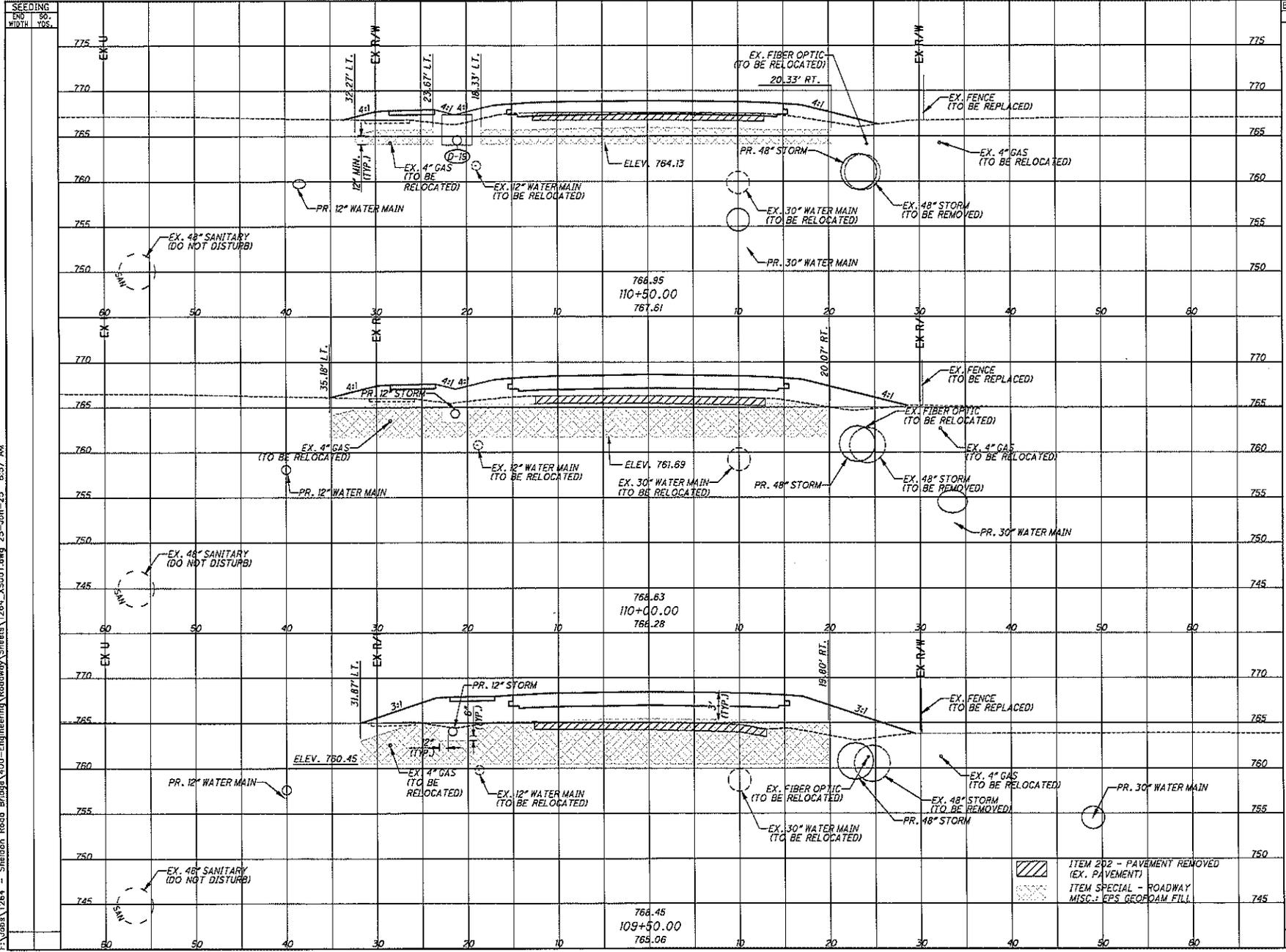


END AREA	VOLUME	CALCULATED		CREATED	
		CUT	FILL	F.T.S.	JULN

CROSS SECTIONS
STATION 108+00.00 TO 109+00.00

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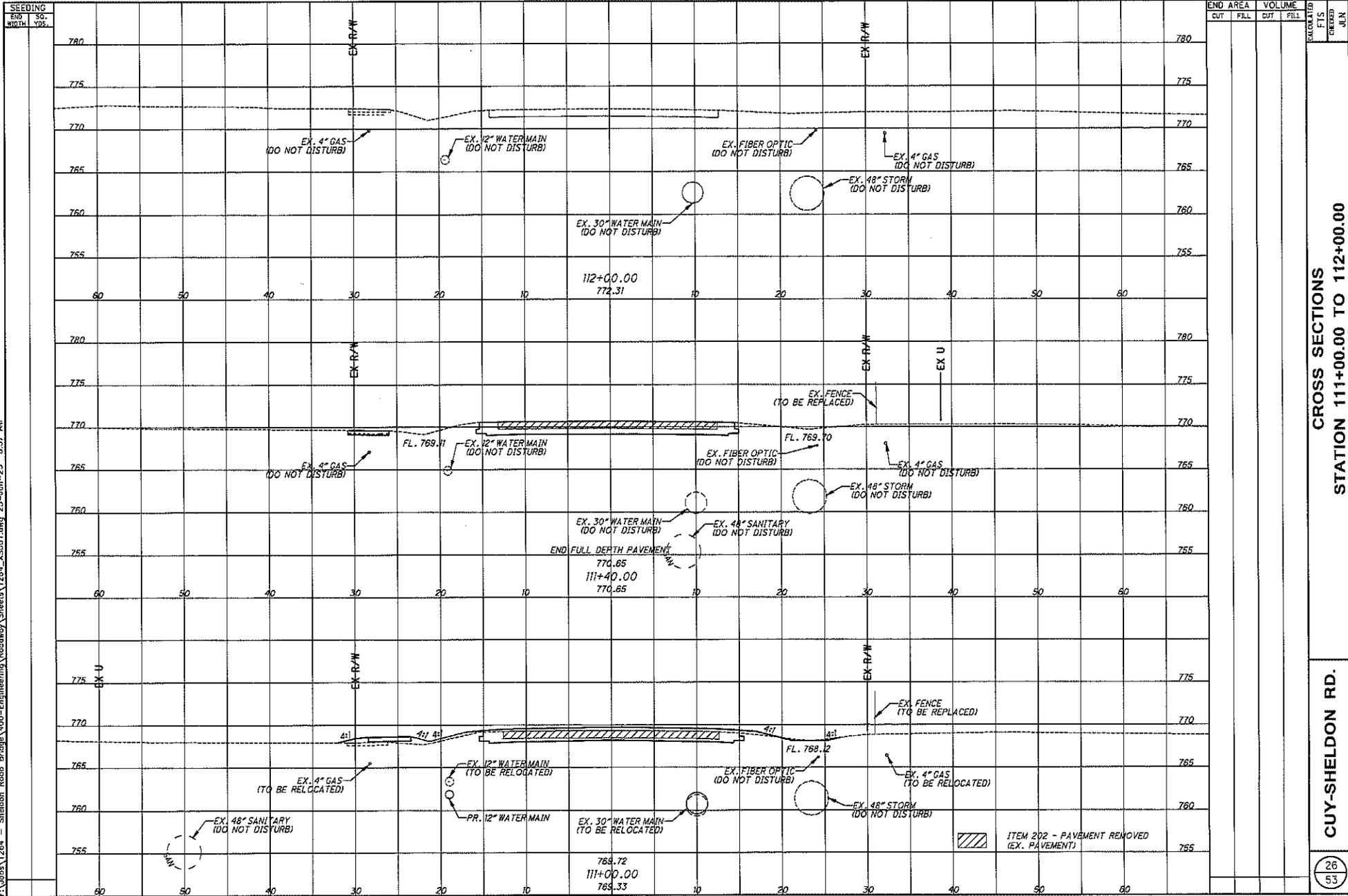


STATION	END AREA		VOLUME		CALCULATED	CHECKED	DATE
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110+50.00							
110+00.00							
109+50.00							

**CROSS SECTIONS
STATION 109+50.00 TO 110+50.00**

CUY-SHELDON RD.

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STATION	END AREA		VOLUME		CALCULATED FTS CREED	JUN
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112+00.00						
111+40.00						
111+00.00						

CROSS SECTIONS
STATION 111+00.00 TO 112+00.00
CUY-SHELDON RD.

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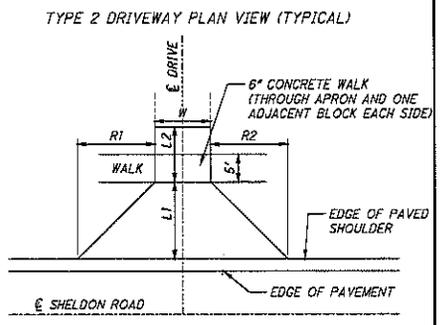
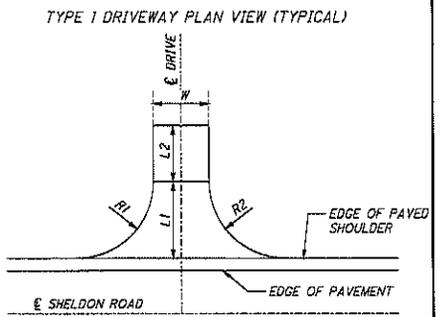
SHEET NO.	REFERENCE NO.	STATION	SIDE	DRIVE TYPE	DRIVE MATERIAL	DRIVE ANGLE	APRON LENGTH 'L1'	DRIVE LENGTH 'L2'	WIDTH 'W'	R1 (LEFT SIDE RADIUS OR APRON FLARE OF DRIVE LOOKING FROM ☐)	R2 (RIGHT SIDE RADIUS OR APRON FLARE OF DRIVE LOOKING FROM ☐)	CADD GENERATED SURFACE AREA	202	203	203	204	304	441	441	452		
													PAVEMENT REMOVED	EXCAVATION	EMBANKMENT	SUBGRADE COMPACTION	AGGREGATE BASE	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS)	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449), (DRIVEWAYS)	6" NON-REINFORCED CONCRETE PAVEMENT		
SHELDON ROAD													SF	SY	CY	CY	SY	CY	CY	SY	SY	
15	DR-1	101+88	RT	COMM.	ASPH.	90°	25.0	0.0	34.0	22.1	5.9	1200										
15	DR-2	101+94	LT	RES.	ASPH.	90°	10.5	16.5	12.0	5.0	5.0	376										
15	DR-3	103+63	LT	RES.	ASPH.	90°	10.5	31.5	12.0	5.0	5.0	556										
16	DR-4	108+49	RT	FIELD	AGG.	90°	25.0	32.0	24.0	25.0	25.0	2104										
TOTALS CARRIED TO GENERAL SUMMARY																						

FIELD DRIVES:
 ITEM 304 - 6" AGGREGATE BASE
 ITEM 204 - SUBGRADE COMPACTION

RESIDENTIAL DRIVES:
 ASPHALT
 ITEM 441 - 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS)
 ITEM 304 - 6" AGGREGATE BASE
 ITEM 204 - SUBGRADE COMPACTION

COMMERCIAL DRIVES:
 ASPHALT
 ITEM 441 - 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS)
 ITEM 407 - TACK COAT
 ITEM 441 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449), (DRIVEWAYS)
 ITEM 304 - 6" AGGREGATE BASE
 ITEM 204 - SUBGRADE COMPACTION

DRIVE APRON MATERIAL TYPE:
 ASPHALT - FOR ASPHALT AND GRAVEL DRIVES

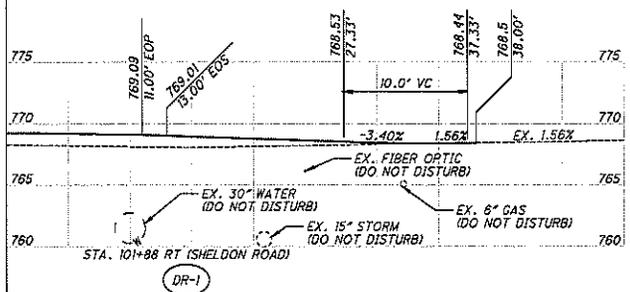
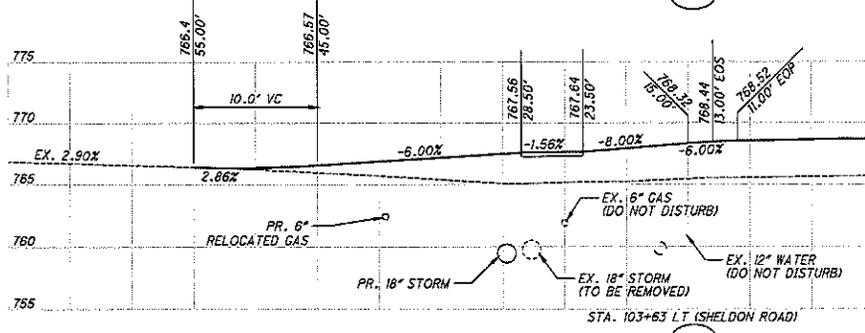
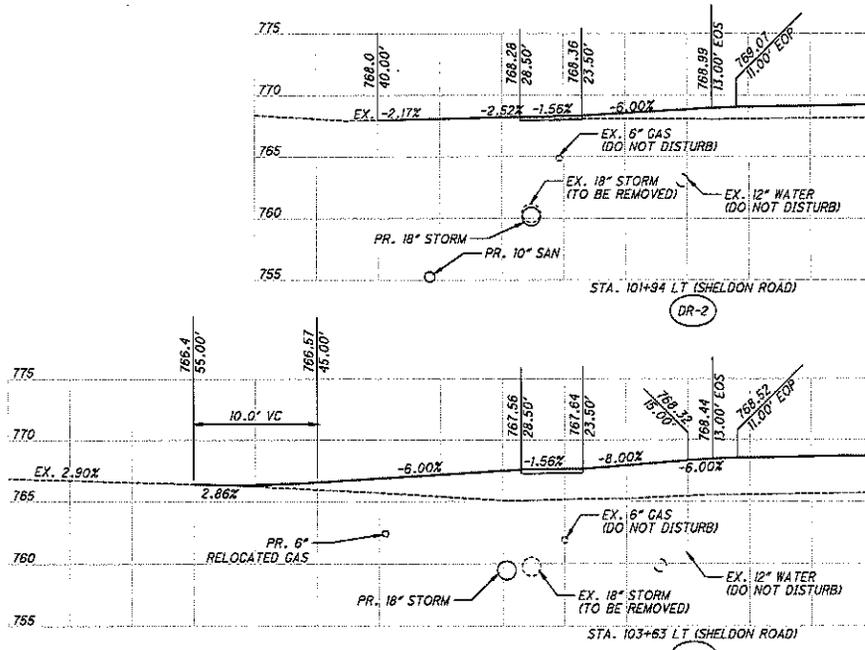


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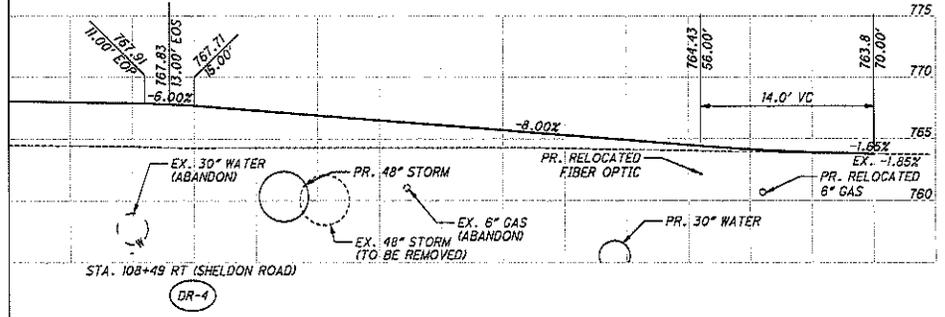
DRIVEWAY SUBSUMMARY

CUY-SHELDON RD.

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E 17' W & CONSTRUCTION SHELDON ROAD



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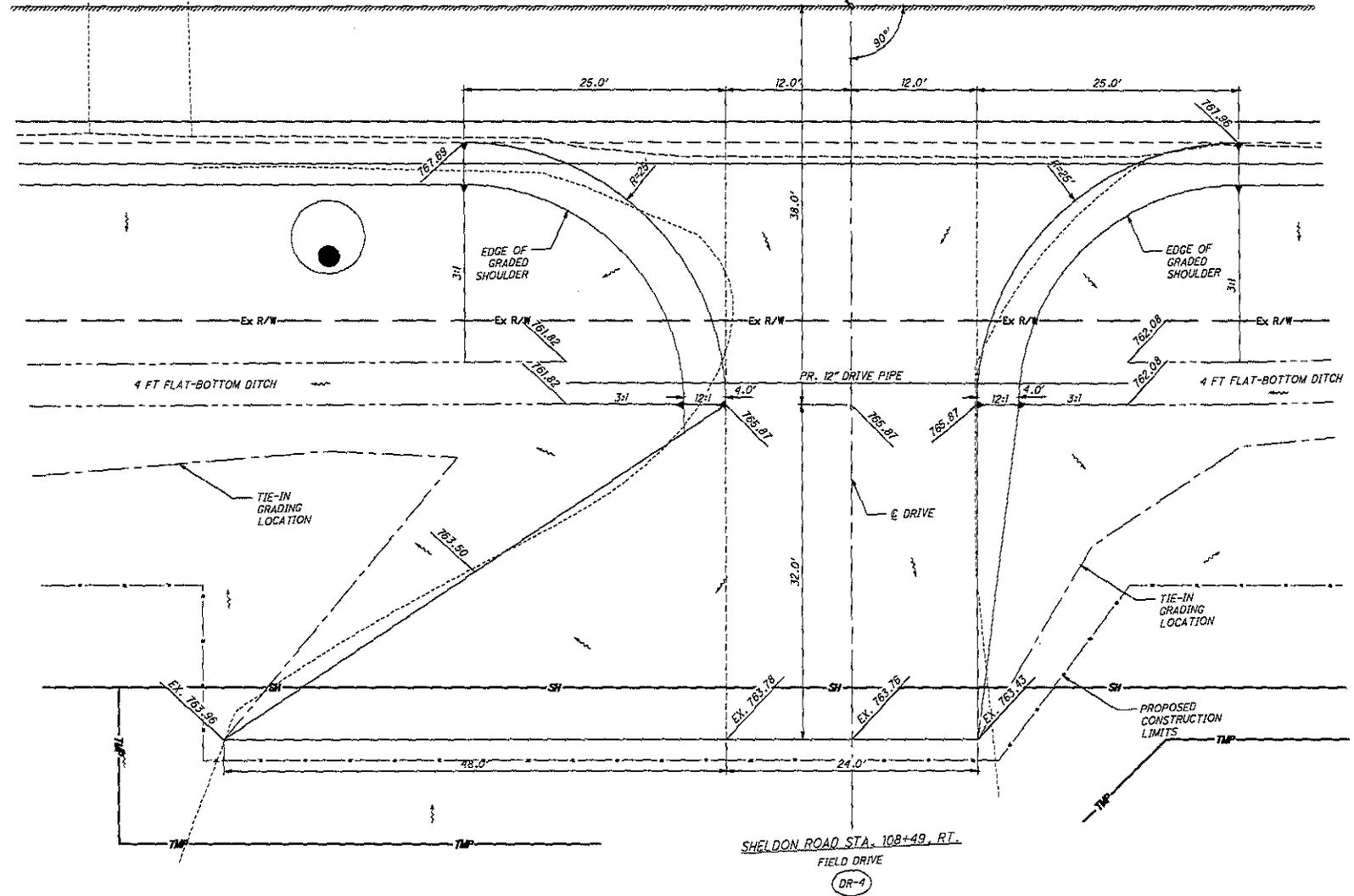
DRIVEWAY PROFILES

CUY-SHELDON RD.

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STA. 108+49.00, ϵ R/W & CONSTRUCTION SHELDON ROAD =
STA. 0+00.00, ϵ BARK PARK DRIVE



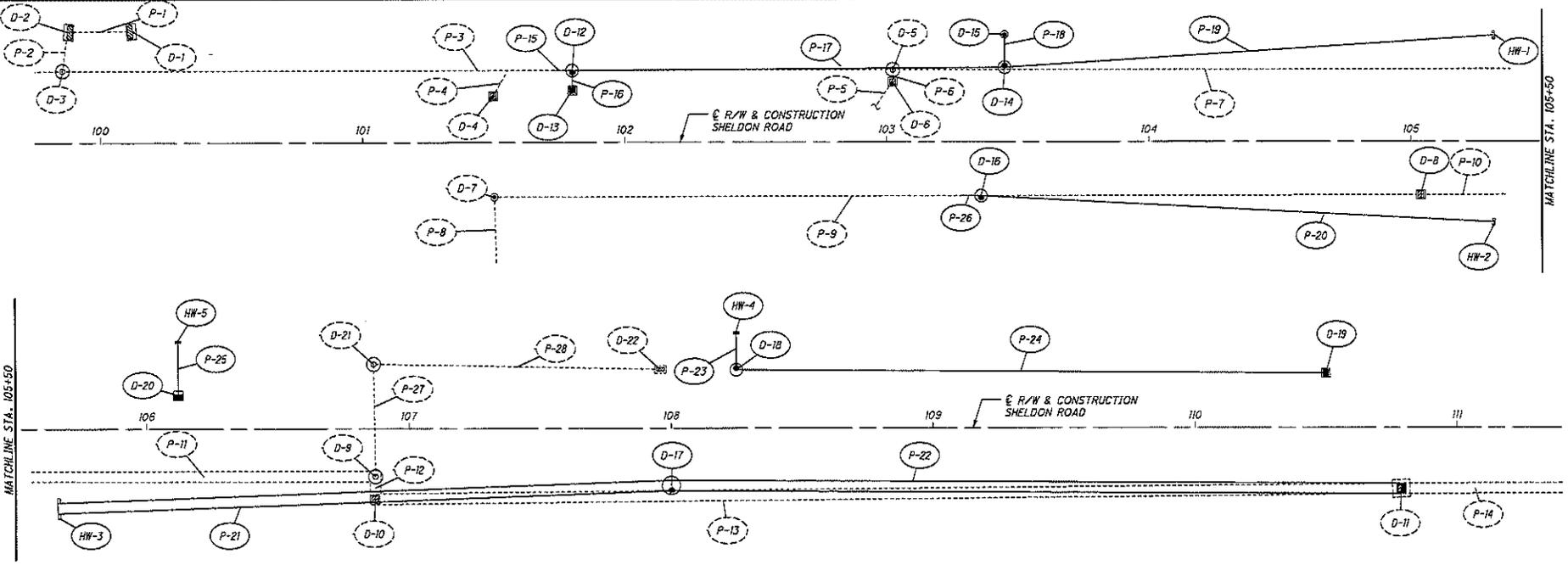
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DRIVE DETAILS, SHELDON ROAD STA. 108+49, RIGHT

CUY-SHELDON RD.

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DRAINAGE CONDUIT DETAILS

REF. NO.	LENGTH (FT)	SIZE	TYPE	SLOPE	START STRUCTURE REF. NO.	START INVERT ELEV.	STOP STRUCTURE REF. NO.	STOP INVERT ELEV.	EXISTING DISPOSITION
P-1	25	12"	EX. RCP	4.9%	D-1	766.02	D-2	764.79	TO REMAIN
P-2	15	12"	EX. RCP	13.1%	D-2	764.79	D-3	762.83	TO REMAIN
P-3	314	18"	EX. RCP	0.3%	D-3	760.25	D-5	759.37	PARTIALLY REMOVE
P-4	11	15"	EX. RCP	0.5%	D-4	762.36	UNK.	762.3	TO BE REMOVED
P-5	11	6"	EX. PVC	UNK.	UNK.	UNK.	D-6	764.31	TO BE REMOVED
P-6	5	12"	EX. RCP	0.4%	D-6	761.92	D-5	761.9	TO BE REMOVED
P-7	233	18"	EX. RCP	0.4%	D-5	759.26	NONE	758.3	TO BE REMOVED
P-8	25	12"	EX. RCP	UNK.	UNK.	UNK.	D-7	760.51	TO REMAIN
P-9	354	15"	EX. RCP	0.5%	D-7	760.16	D-8	758.39 (EST.)	PARTIALLY REMOVE
P-10	32	15"	UNK.	0.5%	D-8	758.39 (EST.)	NONE	758.23 (EST.)	TO BE REMOVED
P-11	131	48"	UNK.	0.5%	D-9	757.21 (EST.)	NONE	756.55 (EST.)	TO BE REMOVED
P-12	9	48"	UNK.	0.5%	D-10	757.21 (EST.)	D-9	757.17 (EST.)	TO BE REMOVED
P-13	392	48"	EX. RCP	0.5%	D-11	759.17	D-10	757.21 (EST.)	TO BE REMOVED
P-14	241	48"	EX. RCP	1.0%	N/A	761.68	D-11	759.17	TO REMAIN
P-15	8	18"	TYPE C	0.28%	N/A	759.73	D-12	759.71	
P-16	8	12"	TYPE C	1.00%	D-13	760.04	D-12	759.96	
P-17	165	18"	TYPE C	0.40%	D-12	759.46	D-14	758.80	
P-18	18	12"	TYPE C	1.00%	D-15	759.48	D-14	759.30	
P-19	187	18"	TYPE C	0.40%	D-14	758.80	HW-1	759.06	
P-20	196	15"	TYPE C	0.72%	D-16	759.42	HW-2	758.01	
P-21	234	48"	TYPE C	0.30%	D-17	758.33	HW-3	757.64	
P-22	279	48"	TYPE C	0.30%	D-11	758.17	D-17	758.33	
P-23	15	12"	TYPE C	0.93%	D-18	762.89	HW-4	762.75	
P-24	225	12"	TYPE C	0.52%	D-19	764.05	D-18	762.89	
P-25	21	12"	TYPE C	1.00%	D-20	763.99	HW-5	763.77	
P-26	8	15"	TYPE C	0.38%	N/A	759.45	D-16	759.42	
P-27	43	15"	UNK.	UNK.	D-21	UNK.	D-9	UNK.	TO BE REMOVED
P-28	109	15"	UNK.	UNK.	D-22	UNK.	D-21	UNK.	TO BE REMOVED

DRAINAGE STRUCTURE DETAILS

REF. NO.	REFERENCE ALIGNMENT	STATION	OFFSET	SIDE	TYPE	GRATE/RIM ELEV.	INVERT ELEV.	CONNECTED PIPES	EXISTING DISPOSITION
D-1	SHELDON RD	100+12.3	42.7	LT	EX. CB	770.4	766.0	(OUT) P-1 W 12" 766.02	DO NOT DISTURB
D-2	SHELDON RD	99+87.6	42.5	LT	EX. CB	770.4	UNK.	(IN) P-1 E 12" 764.79, (OUT) P-2 S 12" 764.79	DO NOT DISTURB
D-3	SHELDON RD	99+85.6	27.6	LT	EX. MH	770.6	760.3	(IN) P-2 N 12" 762.83, (IN) 15" STL W 761.14, (IN) P-3 15" 760.25	DO NOT DISTURB
D-4	SHELDON RD	101+49.9	17.8	LT	EX. CB	768.7	762.4	(OUT) P-4 N 15" 762.36	TO BE REMOVED
D-5	SHELDON RD	103+02.3	27.9	LT	EX. MH	765.9	759.3	(IN) P-3 W 18" 759.37, (IN) P-6 S 12" 761.90, (OUT) P-7 E 18" 759.26	TO BE REMOVED
D-6	SHELDON RD	103+02.3	23.1	LT	EX. CB	765.6	761.9	(IN) P-5 SW 6" 764.31, (OUT) P-6 N 12" 761.92	TO BE REMOVED
D-7	SHELDON RD	101+50.2	20.9	RT	EX. CB	762.1	760.2	(IN) P-8 S 12" 760.51, (OUT) P-9 E 15" 760.16	DO NOT DISTURB
D-8	SHELDON RD	105+03.8	20.5	RT	EX. CB	762.96	UNK.	(IN) P-9 W 15" 758.39 (EST.), (OUT) P-10 E 758.39 (EST.)	TO BE REMOVED
D-9	SHELDON RD	106+97.2	18.3	RT	EX. MH	760.99	UNK.	(IN) P-12 S 48" 767.17 (EST.), (OUT) P-11 W 48" 767.17 (EST.), (OUT) P-27 N UNK.	TO BE REMOVED
D-10	SHELDON RD	106+97.0	27.0	RT	EX. CB	759.02	UNK.	(IN) P-13 E 48" 767.21 (EST.), (OUT) P-12 N 48" 767.21 (EST.)	TO BE REMOVED
D-11	SHELDON RD	110+78.5	23.5	RT	EX. CB	767.19 (PR.)	759.17	(IN) P-14 E 48" 759.17, (OUT) P-22 W 48" 759.17	ADJUST TO GRADE
D-12	SHELDON RD	101+80.00	27.54	LT	MH NO. 3	768.19	758.46	(OUT) P-16 N 12" 760.04	
D-13	SHELDON RD	101+80.00	20.00	LT	CB 2-2B	767.99	760.04	(OUT) P-16 N 12" 760.04	
D-14	SHELDON RD	103+45.00	28.50	LT	MH NO. 3	767.62	758.80	(IN) P-17 W 18" 758.80, (IN) P-18 N 12" 759.30, (OUT) P-19 E 18" 759.80	
D-15	SHELDON RD	103+45.00	41.00	LT	CB-7	765.52	759.48	(OUT) P-16 S 12" 759.48	
D-16	SHELDON RD	103+36.00	20.68	RT	MH NO. 3	767.33	759.42	(IN) P-25 W 15" 759.42, (OUT) P-20 E 15" 759.42	
D-17	SHELDON RD	108+00.00	22.00	RT	MH NO. 3	763.70	758.33	(IN) P-22 E 48" 758.33, (OUT) P-21 W 48" 758.33	
D-18	SHELDON RD	108+25.00	22.50	LT	MH NO. 3	767.38	762.89	(IN) P-24 E 12" 762.89, (OUT) P-23 N 12" 762.89	
D-19	SHELDON RD	110+50.00	21.00	LT	CB 2-2B	767.34	764.05	(OUT) P-24 W 12" 764.05	
D-20	SHELDON RD	106+12.00	13.00	LT	CUY CO 3C	767.48	763.98	(OUT) P-25 N 12" 763.98	
D-21	SHELDON RD	108+86.6	34.9	LT	EX. MH	N/A	UNK.	(IN) P-28 E UNK., (OUT) P-27 S UNK.	TO BE REMOVED
D-22	SHELDON RD	107+96.0	22.7	LT	EX. CB	N/A	UNK.	(OUT) P-28 W UNK.	TO BE REMOVED
HW-1	SHELDON RD	105+32.00	40.50	LT	HW-2.1	N/A	758.06	(IN) P-19 W 18" 758.06	
HW-2	SHELDON RD	105+32.00	31.00	RT	HW-2.1	N/A	758.01	(IN) P-20 W 15" 758.01	
HW-3	SHELDON RD	105+66.00	30.40	RT	HW-2.2	N/A	767.64	(IN) P-21 E 48" 767.64	
HW-4	SHELDON RD	108+25.00	37.00	LT	HW-2.1	N/A	762.80	(IN) P-23 S 12" 762.75	
HW-5	SHELDON RD	105+12.00	34.00	LT	HW-2.1	N/A	763.77	(IN) P-25 S 12" 763.77	

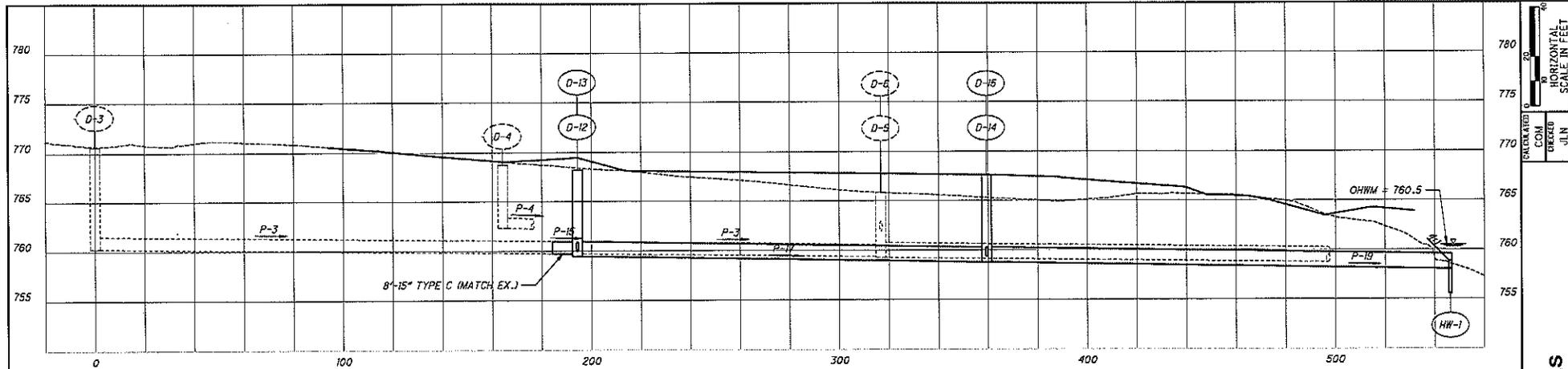


STORM SEWER DETAILS

CUY-SHELDON RD.

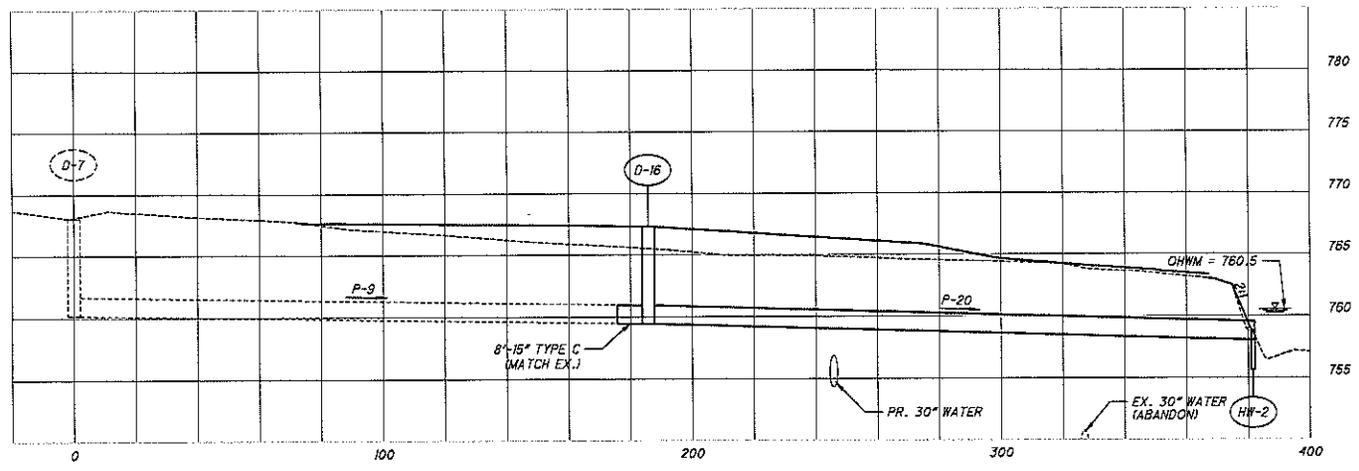
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NOTES:
1. SEE SHEET 30 FOR COMPLETE DRAINAGE INFORMATION.

NORTHWEST STORM SEWER

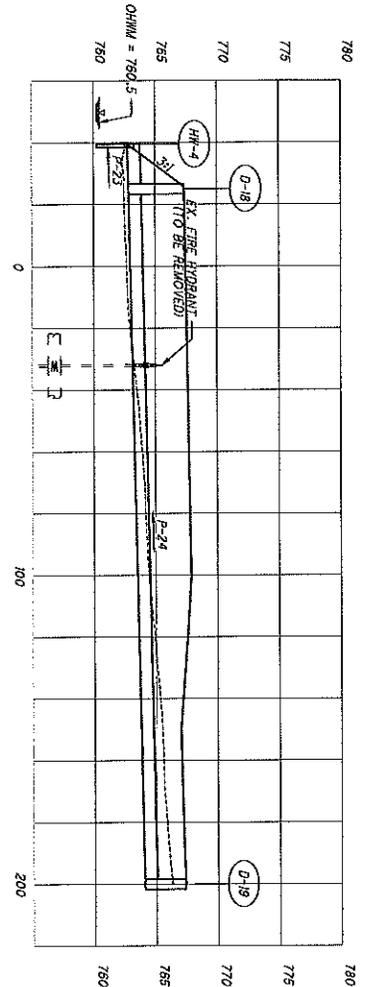


SOUTHWEST STORM SEWER

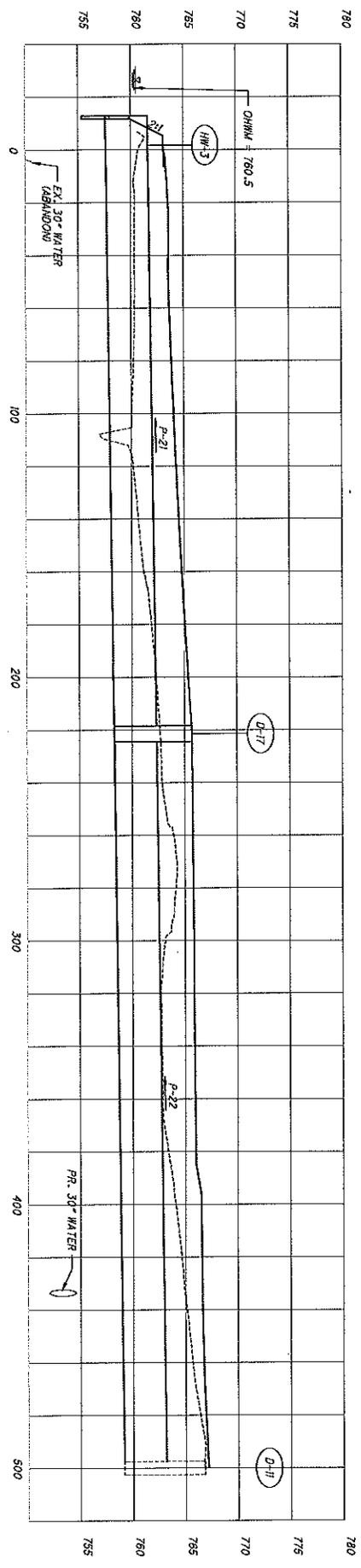


SHELDON ROAD
DRAINAGE PROFILES

CUY-SHELDON RD.

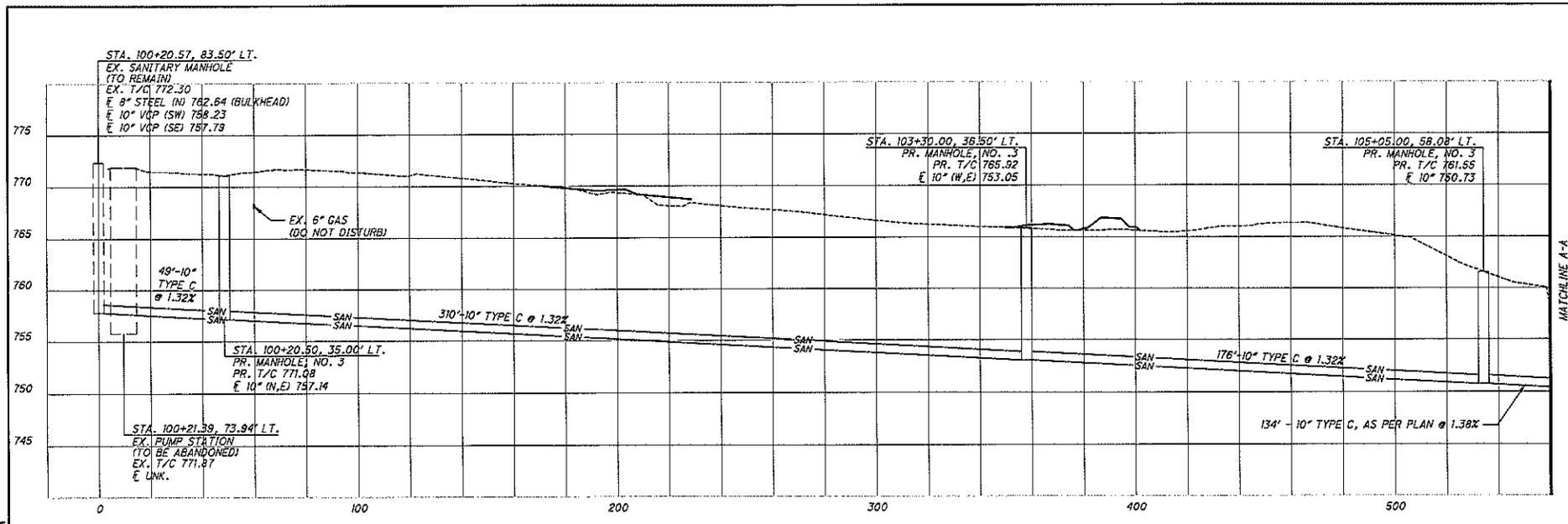


NOTES:
1. SEE SHEET 30 FOR COMPLETE DRAINAGE INFORMATION. NORTHEAST STORM SEWER

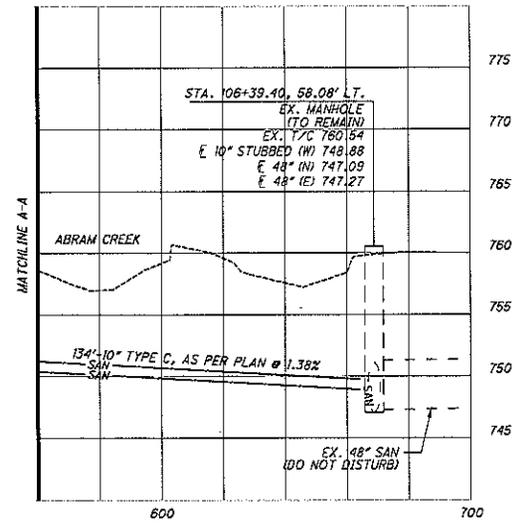


SOUTHEAST STORM SEWER

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PROPOSED SANITARY SEWER



PROPOSED SANITARY SEWER

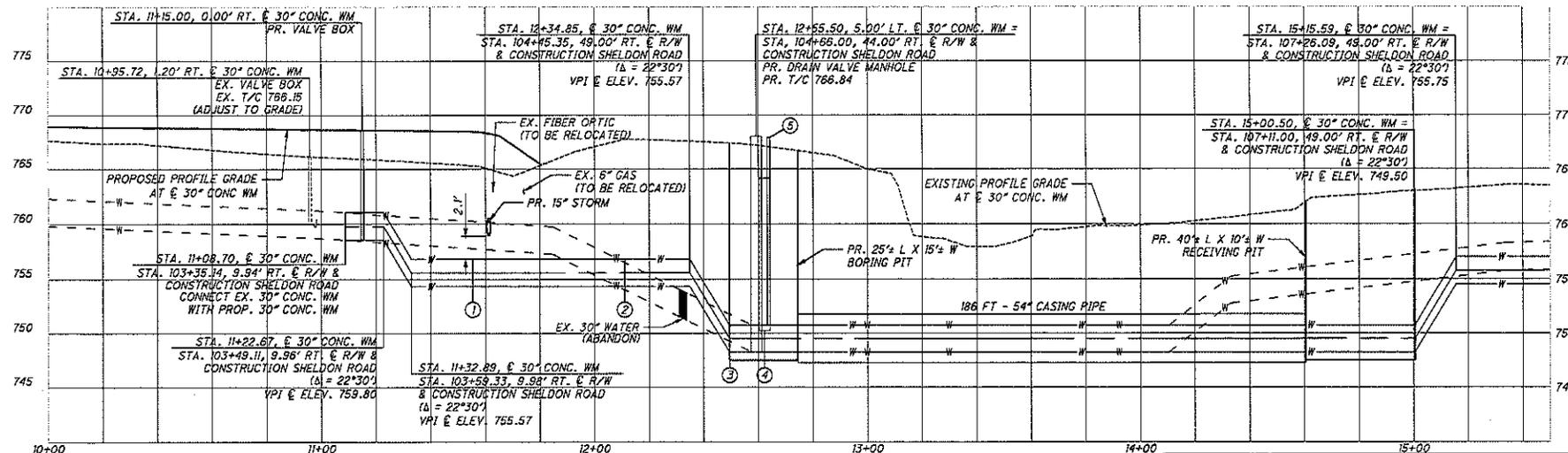
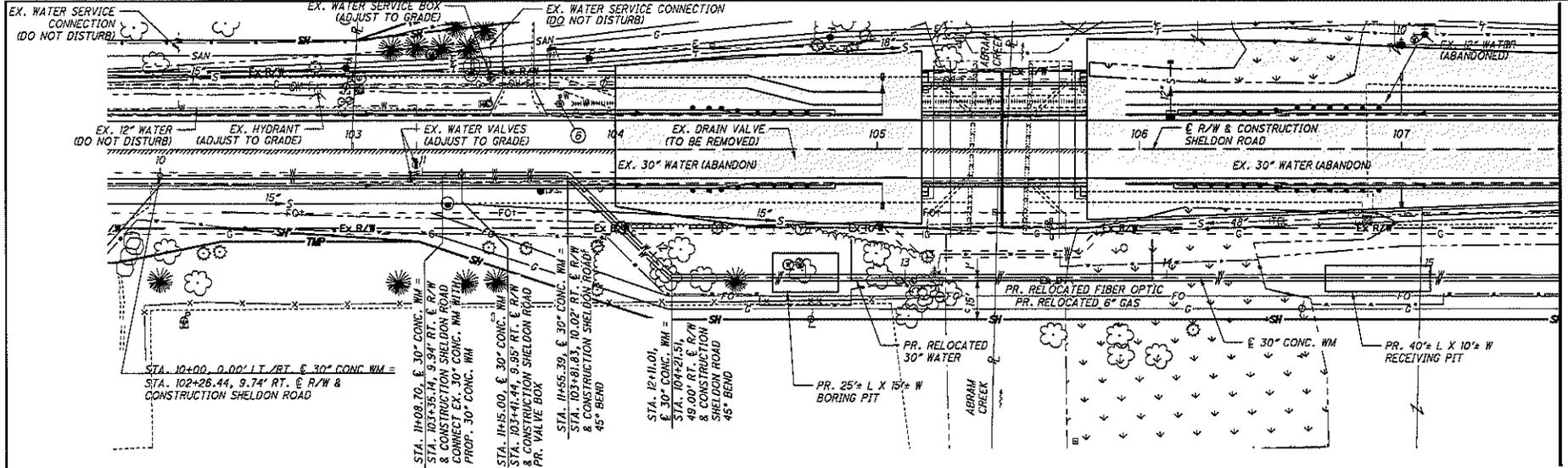


SHELDON ROAD
 SANITARY SEWER PROFILE

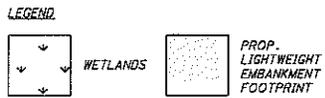
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NOTES:
1. CATHODIC PROTECTION TO BE INCLUDED.



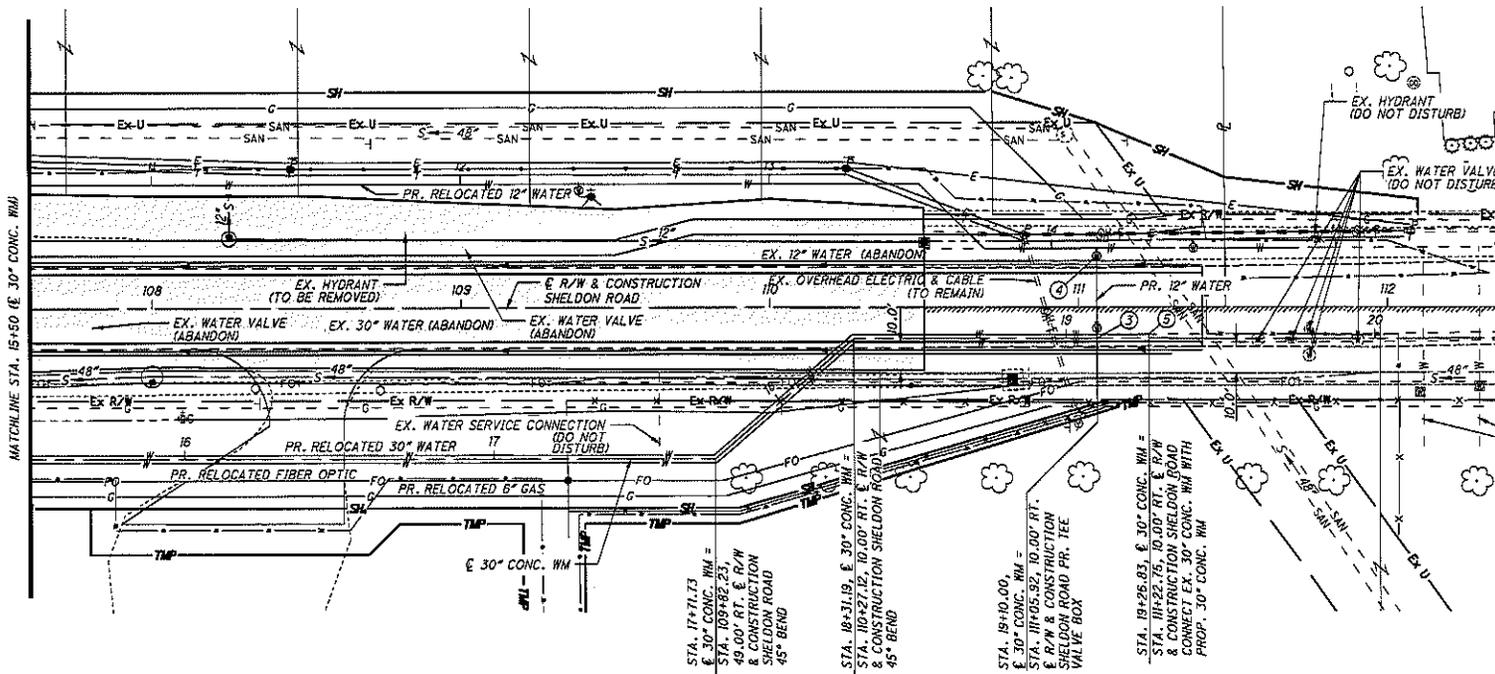
- ① STA. 11+55.39, 30" CONC. WM 45° HORIZONTAL BEND LOCATION
- ② STA. 12+11.01, 30" CONC. WM 45° HORIZONTAL BEND LOCATION
- ③ STA. 12+49.50, 30" CONC. WM = STA. 104+60.00, 49.00' RT. E R/W & CONSTRUCTION SHELTON ROAD (Δ = 22°30') VPI @ ELEV. 749.50
- ④ STA. 12+59.08, 45.46' RT. E 30" CONC. WM EX. DRAIN VALVE (TO BE REMOVED) EX. T/C 764.13
- ⑤ STA. 12+60.00, 5.00' LT. E 30" CONC. WM = STA. 104+70.50, 44.00' RT. E R/W & CONSTRUCTION SHELTON ROAD PR. VALVE BOX PR. T/C 766.79
- ⑥ STA. 103+78.95, 17.45' LT. E R/W & CONSTRUCTION SHELTON ROAD PR. AIR RELIEF VALVE AND 2" FLUSHING OUTLET VALVE ASSEMBLY

REVISIONS		
NO.	DATE	BY

LOW SERVICE DISTRICT	
DEPARTMENT OF PUBLIC UTILITIES	
DIVISION OF WATER CLEVELAND, OHIO	
SUBJECT 30" WATER MAIN	
ALONG SHELTON ROAD	
CITY OF MIDDLEBURG HEIGHTS	
DRAWN BY	SCALE
DATE	
CHECKED BY	DATE
No.	

WATER WORK PLAN AND PROFILE
STA. 10+00 TO STA. 15+50

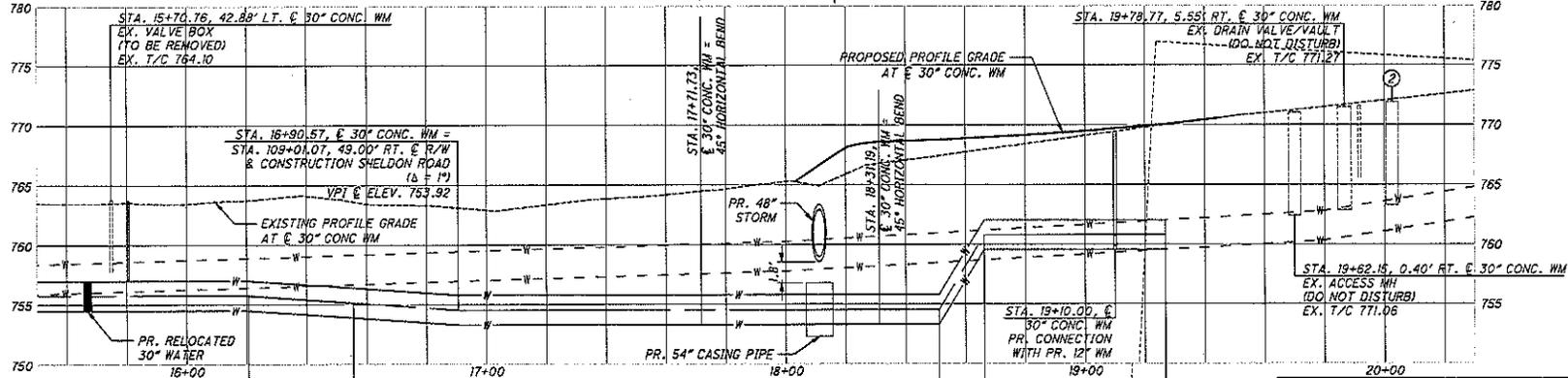
CUY-SHELTON RD.
34
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NOTES:
1. CATHODIC PROTECTION TO BE INCLUDED.

- ③ STA. 19+10.00, \varnothing 30" CONC. WM = STA. 11+05.92, 10.00' RT. \varnothing R/W & CONSTRUCTION SHELDON ROAD PR. TEE & VALVE BOX
- ④ STA. 11+05.92, 19.02' LT. \varnothing R/W & CONSTRUCTION SHELDON ROAD PR. TEE & VALVE BOX
- ⑤ TEMPORARY 1" K-COPPER CHLORINATION PIPE

EX. WATER SERVICE CONNECTION (DO NOT DISTURB)



PROFILE ALONG \varnothing 30" CONC. WM

STA. 15+70.76, 42.88' LT. \varnothing 30" CONC. WM
EX. VALVE BOX (TO BE REMOVED)
EX. T/C 764.10

STA. 16+20.59, \varnothing 30" CONC. WM = STA. 108+31.09, 49.00' RT. \varnothing R/W & CONSTRUCTION SHELDON ROAD (16 = 19)
VPI \varnothing ELEV. 755.75

STA. 16+55.59, \varnothing 30" CONC. WM = STA. 108+66.09, 49.00' RT. \varnothing R/W & CONSTRUCTION SHELDON ROAD (16 = 19)
VPI \varnothing ELEV. 755.14

STA. 17+71.73, \varnothing 30" CONC. WM = STA. 108+27.12, 10.00' RT. \varnothing R/W & CONSTRUCTION SHELDON ROAD 45° BEND

STA. 18+31.19, \varnothing 30" CONC. WM = STA. 110+27.12, 10.00' RT. \varnothing R/W & CONSTRUCTION SHELDON ROAD 45° BEND

STA. 19+10.00, \varnothing 30" CONC. WM = STA. 11+05.92, 10.00' RT. \varnothing R/W & CONSTRUCTION SHELDON ROAD PR. TEE VALVE BOX

STA. 19+26.83, \varnothing 30" CONC. WM = STA. 11+22.75, 10.00' RT. \varnothing R/W & CONSTRUCTION SHELDON ROAD CONNECT EX. 30" CONC. WM WITH PROP. 30" CONC. WM

STA. 19+78.77, 5.55' RT. \varnothing 30" CONC. WM
EX. DRAIN VALVE/VAULT (DO NOT DISTURB)
EX. T/C 771.27

STA. 19+62.15, 0.40' RT. \varnothing 30" CONC. WM
EX. ACCESS MH (DO NOT DISTURB)
EX. T/C 771.06

- ① STA. 18+51.19, \varnothing 30" CONC. WM = STA. 110+47.11, 10.00' RT. \varnothing R/W & CONSTRUCTION SHELDON ROAD (16 = 22°30')
VPI \varnothing ELEV. 754.53
- ② STA. 19+94.44, 0.59' RT. \varnothing 30" CONC. WM EX. ACCESS MH (DO NOT DISTURB)
EX. T/C 771.91

LEGEND

- PROP. LIGHTWEIGHT EMBANKMENT FOOTPRINT
- STA. 16+55.59, \varnothing 30" CONC. WM = STA. 108+66.09, 49.00' RT. \varnothing R/W & CONSTRUCTION SHELDON ROAD (16 = 19)
VPI \varnothing ELEV. 755.14

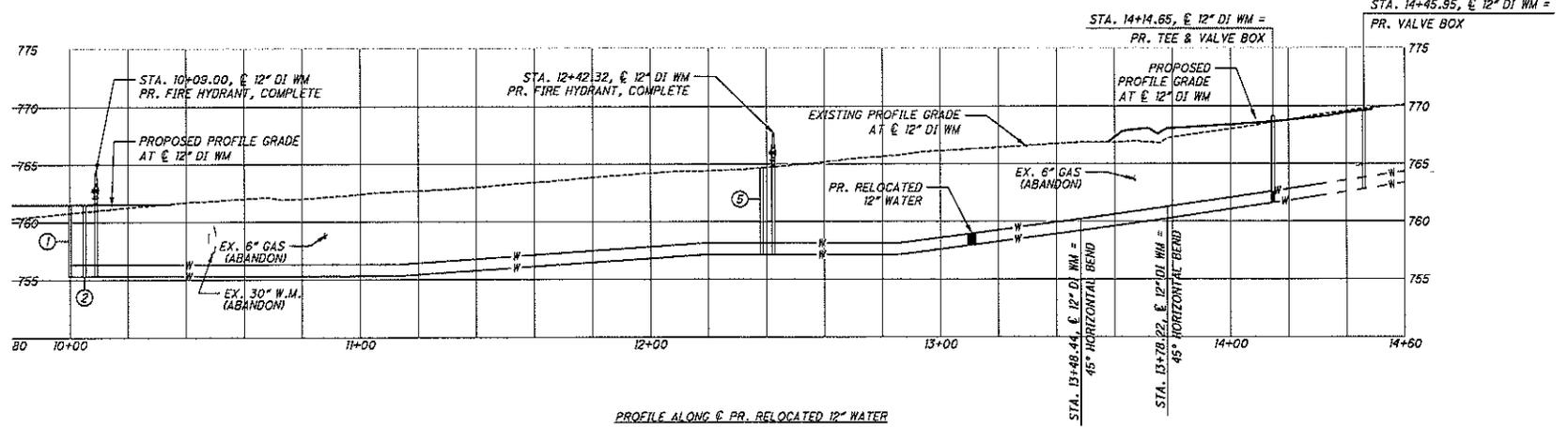
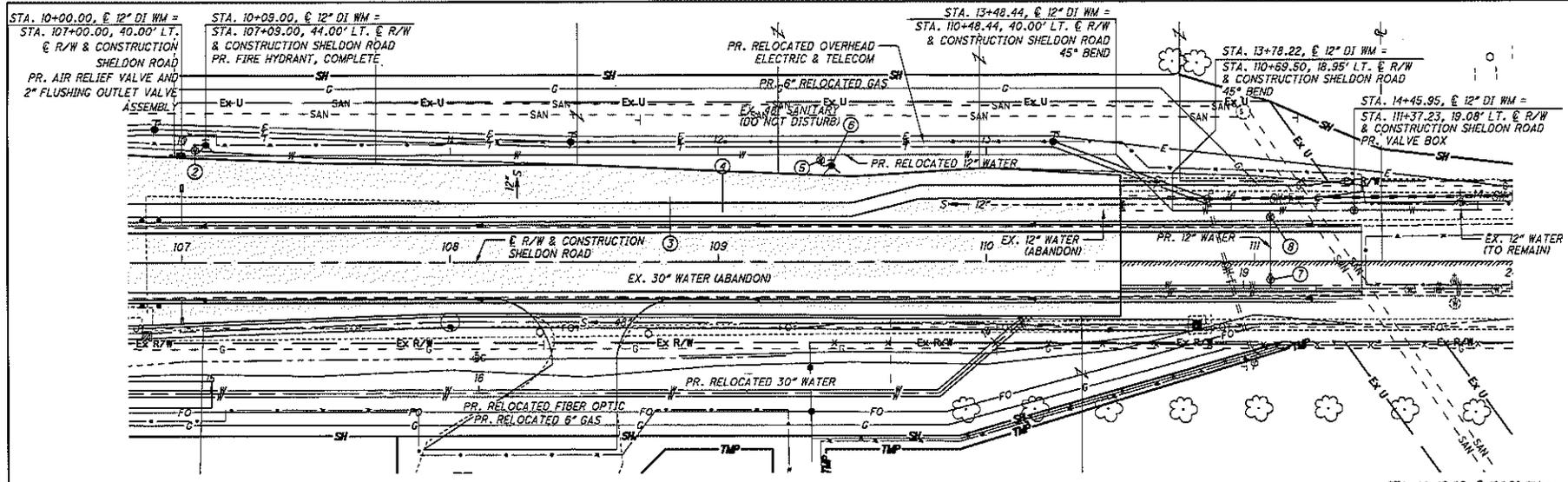
REVISED			LOW SERVICE DISTRICT	
NO.	DATE	BY		
			DEPARTMENT OF PUBLIC UTILITIES	
			DIVISION OF WATER CLEVELAND, OHIO	
			SUBJECT	
			30" WATER MAIN	
			ALONG SHELDON ROAD	
			CITY OF MIDDLEBURG HEIGHTS	
DRAWN BY			SCALE	
DATE				
CHECKED BY			DATE	
			No.	



WATER WORK PLAN AND PROFILE
STA. 15+50 TO STA. 20+40

CUY-SHELDON RD.

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PROFILE ALONG PROPOSED 12" DI WATER

- ① STA. 10+00.00, 12" DI WM = STA. 107+00.00, 40.00' LT. R/W & CONSTRUCTION SHELDON ROAD PR. AIR RELIEF VALVE AND 2" FLUSHING OUTLET VALVE ASSEMBLY
- ② STA. 10+05.00, 12" DI WM = STA. 107+05.00, 42.00' LT. R/W & CONSTRUCTION SHELDON ROAD PR. VALVE BOX
- ③ STA. 106+82.09, 24.02' LT. R/W & CONSTRUCTION SHELDON ROAD EX. FIRE HYDRANT AND VALVE (TO BE REMOVED)
- ④ STA. 109+01.67, 18.63' LT. R/W & CONSTRUCTION SHELDON ROAD EX. VALVE BOX (TO BE REMOVED)
- ⑤ STA. 12+38.32, 12" DI WM = STA. 109+38.32, 38.00' LT. R/W & CONSTRUCTION SHELDON ROAD PR. VALVE BOX
- ⑥ STA. 12+42.32, 12" DI WM = STA. 109+42.32, 36.00' LT. R/W & CONSTRUCTION SHELDON ROAD PR. FIRE HYDRANT, COMPLETE
- ⑦ PR. TEE AND VALVE BOX (SEE SHEET 35 FOR INFORMATION)
- ⑧ STA. 14+14.65, 0.00' RT. 12" DI WM = STA. 111+05.92, 19.02' LT. R/W & CONSTRUCTION SHELDON ROAD PR. VALVE BOX

LEGEND



REVISIONS			LOW SERVICE DISTRICT	
NO.	DATE	BY	DEPARTMENT OF PUBLIC UTILITIES	
			DIVISION OF WATER	
			CLEVELAND, OHIO	
			12" WATER MAIN	
			ALONG SHELDON ROAD	
			CITY OF MIDDLEBURG HEIGHTS	
			DRAWN BY	SCALE
			DATE	
			CHECKED BY	DATE
				No.



**WATER WORK PLAN AND PROFILE
STA. 10+00 TO STA. 14+50**

CUY-SHELDON RD.

36
53

REFERENCE STANDARDS

1. ASTM A276- STAINLESS STEEL BARS AND SHAPES
2. ASTM A193/A194- ALLOY-STEEL AND STAINLESS-STEEL BOLTING FOR HIGH TEMPERATURE OR HIGH-PRESSURE SERVICE AND OTHER SPECIAL PURPOSE APPLICATIONS
3. ASTM A536- DUCTILE IRON CASTINGS
4. ASTM A1097- STEEL CASING PIPE, CARBON, ELECTRIC-FUSION (ARC)-WELDED (NPS 10 AND LARGER)
5. ASTM D2774- STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING
6. ASTM F1668- STANDARD GUIDE FOR CONSTRUCTION PROCEDURES FOR BURIED PLASTIC
7. ANSI/AWWA C111- RUBBER-GASKET JOINTS FOR DUCTILE IRON PRESSURE PIPE AND FITTINGS
8. ANSI/AWWA C151-DUCTILE-IRON PIPE, CENTRIFUGALLY CAST
9. ANSI/AWWA C153- DUCTILE IRON COMPACT FITTINGS
10. ANSI/AWWA C110- DUCTILE IRON FLANGED FITTINGS
11. AWWA C219- BOLTED SLEEVE-TYPE COUPLINGS FOR PLAIN-END PIPE
12. AWWA C509- RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY SERVICE
13. AWWA C515- REDUCED-WALL, RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY SERVICE
14. AWWA C900- POLYVINYL CHLORIDE PVC PRESSURE PIPE AND FABRICATED FITTINGS
15. AWWA C909- MOLECULARLY ORIENTED POLYVINYL CHLORIDE
16. ODOT 499- CONCRETE

DUCTILE IRON PIPE

1. ALL PIPE SHALL BE AWWA C151 DUCTILE IRON, MINIMUM CLASS 52, WITH A CEMENT MORTAR LINING, HAVING PUSH-ON JOINTS WITH RADIALLY COMPRESSED RUBBER RING GASKET. MAINS 36" AND LARGER SHALL BE MINIMUM PRESSURE CLASS 350.

PVC PIPE

1. AWWA C900 CLASS 235 PSI (DR18) OR AWWA C909 CLASS 235 PSI (DR18)
2. INSIDE DIAMETER: NO LARGER THAN 12", NO SMALLER THAN 4".

GATE VALVES

1. AWWA C509 OR C515 APPROVED MODEL RESILIENT SEATED GATE VALVES
2. VALVE OPERATING NUTS: TAPERED (1 7/8" TO 2" FROM TOP TO BOTTOM) AND 2" DEEP
3. MIDDLE RING AND FOLLOWER GLANDS TO BE DUCTILE IRON ASTM A536

AIR RELIEF VALVES

1. AIR RELIEF VALVE COMPONENT PARTS SHALL CONFORM TO AWWA C800 AND ASTM B584 FOR MATERIALS THAT COME INTO CONTACT WITH POTABLE WATER.
2. VALVE INLET AND OUTLET SIZE SHALL BE 2". INSTALL **ONLY** CLEVELAND WATER-APPROVED AIR RELIEF VALVE PRODUCTS.

HYDRANTS

1. INSTALL **ONLY** CLEVELAND WATER-APPROVED HYDRANT MODELS .
2. HYDRANTS SHALL BE FACTORY EQUIPPED WITH THE APPROPRIATE HYDRANT NOZZLE, INCLUDING STORZ IF REQUESTED BY THE LOCAL MUNICIPALITY.
3. INSTALL ALL HYDRANTS WITH APPROVED PVC PIPE (ITEM 2) AND AWWA C509 6" RW GATE VALVES .
4. HYDRANT CONNECTIONS ARE TO BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 OR COMPRESSION COUPLINGS WITH ROD AND

CLAMPS AS DIRECTED BY CLEVELAND WATER.

5. HYDRANT BRANCHES TO BE FULLY RESTRAINED. IF BRANCH IS SHORTENED, USE ONLY 1 SLEEVE OR COUPLING WITH NO NEW PIPE REQUIRED.
6. MIDDLE RING AND FOLLOWER GLANDS TO BE EITHER STEEL OR DUCTILE IRON ASTM A536.
7. FLUSHING HYDRANTS SHALL CONSIST OF 2" FIP VERTICAL INLET, 2" MIP OUTLET AND BE SELF-DRAINING. FLUSHING HYDRANT SHALL BE FULLY OPERABLE AND SERVICEABLE FROM ABOVE GROUND. EQUAL TO KUPERFERLE TRUFLO MODEL NO. TF500.

COMPRESSION COUPLINGS - VALVES AND HYDRANTS

1. CLASS 250 AWWA C219 GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END PIPE
2. MINIMUM WORKING PRESSURE: 250 PSI
3. EQUAL TO DRESSER STYLE NO. 38, 138, OR 162 (TRANSITION TYPE) OR ROMAC 501/ SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS.
4. EACH COUPLING TO CONSIST OF 1 DUCTILE IRON MIDDLE RING WITHOUT STOPS (ASTM-A536), 2 DUCTILE IRON FOLLOWER GLANDS (ASTM A536), 2 RUBBER COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS, AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS OF ASTM A276/A193/194 TYPE 304 EXTRA HEAVY HEX TO PROPERLY COMPRESS THE GASKETS.

FITTINGS/JOINTS

1. ALL FITTINGS/JOINTS TO BE APPROVED DUCTILE IRON, CLASS 350, CEMENT LINED, OR FUSION BONDED EPOXY COATED (UNLESS OTHERWISE CALLED FOR ON PLANS) .
2. ALL FITTINGS TO BE RESTRAINED USING A "RETAINED" MECHANICAL JOINT CONFORMING TO THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ANSI/AWWA C110/A21.10 AND ANSI/AWWA C111/A21.11, OR "COMPACT" FITTINGS IN ACCORDANCE WITH ANSI/AWWA C153/A21.53.
3. MUST HAVE APPROVED "TYPE I" OR "TYPE II" BOLTLESS RESTRAINED PUSH-ON JOINTS TO THE LIMITS SHOWN ON THE DRAWINGS.
4. ALL FITTINGS ARE TO HAVE BELL ENDS.

GASKETS AND LUBRICANTS

1. ELASTOMERIC GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477 FOR HIGH-HEAD APPLICATIONS.
2. GASKETS AND LUBRICANTS INTENDED FOR USE WITH POTABLE WATER SHALL BE CERTIFIED BY AN ACCREDITED TESTING AGENCY FOR COMPLIANCE WITH NSF/ANSI 61.

ANODE PROTECTION

1. MAGNESIUM ALLOY ANODES SHALL MEET ASTM B843 AND ASTM G97.
2. THERMITE WELDS ARE TO BE COATED WITH A PREFABRICATED ONE-PIECE PLASTIC CAP.
3. COPPER SLEEVES ARE REQUIRED FOR THERMITE WELD WIRE CONNECTIONS USING #10 AWG WIRE OR SMALLER.

WATER MAIN TRENCH

1. BEDDING, INITIAL, AND PREMIUM BACKFILL MATERIAL: # 57 OR #67 COARSE LIMESTONE AGGREGATE COMPLYING WITH ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS SECTION 703.11; WRITTEN APPROVAL REQUIRED BY CWD FOR SAND BEDDING FOR DUCTILE IRON PIPE.
2. SUITABLE BACKFILL: EXCAVATED MATERIAL FREE OF ROCK LARGER THAN 1.5", FROZEN MATERIALS, ORGANIC MATERIAL, AND DEBRIS.
3. TYPE 2 CONTROLLED LOW-STRENGTH MORTAR (CLSM) SHALL CONFORM TO ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS SECTION 613.03. CLSM MAY BE USED AS DIRECTED BY CLEVELAND WATER.

CASING

1. CASING SPACER: 8" WIDE STAINLESS STEEL WITH EPDM LINER AND REINFORCED PLASTIC RUNNERS
2. CASING PIPE: ASTM A1097 COATED OR UNCOATED STEEL WITH A MIN. 35,000 PSI SMYS.
3. FOR 8" WATER MAIN USE 16" CASING
4. FOR 12" WATER MAIN USE 20" CASING

TRACER WIRE

1. MUST BE INSTALLED WITH A CONTINUOUS RUN OF 12-GAUGE COPPER-CLAD STEEL WIRE.
2. BREAKING LOAD: MIN. 450 POUNDS
3. MIN. 30 MILS OF BLUE HDPE INSULATION CERTIFIED FOR DIRECT BURIAL
4. GROUND ROD: MIN 1.5 LB MAGNESIUM DRIVE-IN ANODE ROD WITH CONNECTED GROUND WIRE.
5. CONNECTORS: WATERPROOF, CONTAIN DIELECTRIC SILICONE AND RATED FOR DIRECT BURIAL.
6. NON-LOCKING FRICTION FIT, TWIST-ON, AND TAPED CONNECTIONS ARE NOT PERMITTED.

SERVICE CONNECTIONS

1. ALL SERVICE CONNECTIONS SHALL BE A MINIMUM OF 1"
2. FOR CONNECTIONS 2" AND SMALLER: USE TYPE K COPPER
3. FOR CONNECTIONS 3" AND LARGER: USE CLASS 52 DUCTILE IRON WRAPPED IN V-BIO® ENHANCED POLYETHYLENE ENCASEMENT.

BOLTS AND NUTS

1. ALL BOLTS AND NUTS ON ALL RETAINED MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE 1 COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF V-BIO® POLYETHYLENE WRAP OR APPROVED EQUAL WRAPPING IN ACCORDANCE WITH ANSI/AWWA C105/A21.5 MODIFIED METHOD "A" .

CONCRETE

1. FOR BULKHEAD: CLASS QC 1 OR 4,000 PSI HIGH STRENGTH BAGGED CONCRETE MIX
2. FOR THRUST BLOCK: CLASS QC 1 WITH 4,000 PSI 28 DAY COMPRESSIVE STRENGTH (ODOT 499)

FROST PROOFING

1. USE PRE-FORMED CELLULAR CONCRETE FOAM "GILSULATE 500 XR" AS MANUFACTURED BY GILSULATE INTERNATIONAL, INC. OR APPROVED EQUAL.

LOWERING

1. PIPE USED SHALL BE 8" (MIN.) AND 12" (MAX.) IN DIAMETER.
2. MAXIMUM BEND ALLOWED TO BE 22.5 DEGREES.

TEE

1. PIPE TO BE USED ON TEE: 8" (MIN.) AND 12" (MAX)
2. AWWA C110 OR C153 DI CLASS 350 MJ FITTINGS WITH FBE COATING, CEMENT LINING, POLYETHYLENE ENCASEMENT
3. AWWA C219 PIPE COUPLINGS- ROMAC 501 OR SMITH BLAIR 441 DI ONLY
4. AWWA C509 DUCTILE IRON RESILIENT WEDGE GATE VALVE (MJ X MJ)
5. MECHANICAL JOINT RETAINER GLAND FOR PVC PIPE-TYLER UNION OR APPROVED EQUAL



CITY OF CLEVELAND
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF WATER (CWD)

REVISIONS			MATERIAL CRITERIA FOR WATER MAIN INSTALLATION AND REPLACEMENT	
NO.	DATE	BY	DETAIL NO.:	GEN-000A
			SCALE: N.T.S.	DATE: 7/17/2024

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DEVELOPERS, ENGINEERS, AND CONTRACTORS ARE TO ABIDE BY THE MOST CURRENT VERSION OF THE CLEVELAND WATER NOTES AND DETAILS. THE MOST UP-TO-DATE VERSION CAN BE FOUND AT WWW.CLEVELANDWATER.COM/CONSTRUCTION/ OR AS PROVIDED BY CLEVELAND WATER STAFF.

REFERENCE STANDARDS

1. AWWA C600 - INSTALLATION OF DUCTILE-IRON MAINS AND THEIR APPURTENANCES
1. AWWA C605- UNDERGROUND INSTALLATION OF POLYVINYL CHLORIDE (PVC) PRESSURE PIPE AND FITTINGS
2. AWWA C651- DISINFECTING WATER MAINS
3. ASTM D2774- STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING
4. ASTM F1668- STANDARD GUIDE FOR CONSTRUCTION PROCEDURES FOR BURIED PLASTIC PIPE

OVERALL PIPE PREPARATION AND EXECUTION

1. ALL DUCTILE IRON PIPE SHALL BE INSTALLED PER THE MOST CURRENT REVISION OF AWWA C600, AWWA MANUAL M41, DIPRA'S "INSTALLATION GUIDE FOR DUCTILE IRON PIPE" (ISBN 0-9642194-0-9) AND "DIRECT TAPPING OF DUCTILE IRON PIPING ENCASED IN POLYETHYLENE", AS WELL AS THE MANUFACTURER'S INSTRUCTIONS.
2. ALL DUCTILE IRON BURIED WATER MAINS, FITTINGS, VALVES, FIRE HYDRANT BRANCH PIPING AND APPURTENANCES SHALL BE ENCASED WITH V-BIO® ENHANCED POLYETHYLENE ENCASEMENT INSTALLED IN ACCORDANCE WITH THE MOST CURRENT REVISION OF ANSI/AWWA C-105/A21.5 MODIFIED METHOD "A" AND ASTM A674.
3. PIPE AND ACCESSORIES SHOULD BE INSPECTED FOR DEFECTS AND CLEANLINESS BEFORE THEY ARE LOWERED INTO THE TRENCH. ANY DEFECTIVE OR DAMAGED MATERIAL SHOULD BE REPAIRED OR REPLACED, AND ALL FOREIGN MATTER OR DIRT REMOVED FROM THE INTERIOR OF THE PIPE AND ACCESSORIES BEFORE LOWERING INTO TRENCH.
4. ALL PVC PIPE SHALL BE INSTALLED PER AWWA, C605, ASTM D2774, ASTM F1668, AND MANUFACTURER'S INSTRUCTIONS.
5. ONCE DELIVERED, ALL PVC PIPE MUST BE PROTECTED FROM DIRECT SUN EXPOSURE UNTIL THE PIPE IS INSTALLED AND BACKFILLED.
6. ANY PIPE JOINT THAT HAS BEEN OVER-INSERTED SHALL HAVE BOTH THE BELL PIPE AND THE SPIGOT PIPE REMOVED AND DISCARDED.
7. IN NO CASE SHALL MAINS BE LAID WITH LESS THAN 3'-6" OF COVER IN UNPAVED AREAS AND 3'-0" TO BOTTOM OF SLAB IN PAVED AREAS. MAINS SHALL BE LAID AT A BURY DEPTH OF 6 FT MIN. UNLESS WRITTEN PERMISSION IS PROVIDED BY CLEVELAND WATER.
8. ALL MATERIALS, INCLUDING BUT NOT LIMITED TO WATER MAINS, FIRE HYDRANTS, VALVES, CONNECTION MATERIALS AND OTHER WATER APPURTENANCES, SHALL BE NEW AND UNUSED AND SHALL CONFORM TO THE MOST CURRENT CLEVELAND WATER SPECIFICATIONS. ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH CLEVELAND DIVISION OF WATER STANDARDS.
9. TWO FEET ABOVE THE MAIN, DETECTABLE TRACER TAPE NOTING THE PRESENCE OF A WATER MAIN SHALL BE INSTALLED FOR THE ENTIRE LENGTH OF THE MAIN, INCLUDING HYDRANT LATERALS AND OPEN CUT INSTALLED SERVICE CONNECTIONS.
10. ALL MATERIALS USED SHALL ABIDE BY REQUIREMENTS LISTED ON MATERIAL SPECIFICATION LIST (GEN-000A).

TRACER WIRE FOR PVC PIPE

1. ALL NEW TRACER WIRE INSTALLATIONS SHALL HAVE THEIR FUNCTION

VERIFIED BY BEING LOCATED USING TYPICAL LOW FREQUENCY (512HZ) LINE TRACING EQUIPMENT. THE LOCATING FIRM SHALL PROVIDE WRITTEN CERTIFICATIONS THAT THE SYSTEM IS COMPLETELY FUNCTIONAL AT TEST COMPLETION.

2. MAGNESIUM GROUND ANODE RODS ARE TO BE INSTALLED AT EACH DEAD END PER THE MANUFACTURER'S INSTRUCTIONS.
3. TRACER LINES SHALL TERMINATE AT A DEDICATED AT-GRADE ACCESS POINT/TEST STATION IDENTIFIED WITH "WATER" ON THE CAP. AT LEAST 2 FEET OF SLACK WIRE SHALL BE PROVIDED AT EACH TERMINATION POINT.
4. LATERAL TRACER LINES ON HYDRANTS, TEES, AND CROSSES ARE NOT TO CUT THE MAIN TRACER WIRE.

HYDROSTATIC PRESSURE TESTING

1. CLEAN PIPE PRIOR TO CONDUCTING HYDROSTATIC PRESSURE TESTING. CLEANING MAY BE COMPLETED VIA FLUSHING OR SWABBING EXCEPT IF DISINFECTION IS CONDUCTED USING THE TABLET METHOD.
2. FILL WATER MAIN AT A CONTINUOUS RATE, 1 FT/SEC MAXIMUM. ONCE FULL, FLUSH THE LINE NOT LESS THAN 3 FT/SEC UNLESS DIRECTED BY CLEVELAND WATER THAT CONDITIONS DO NOT PERMIT THE REQUIRED FLOW RATE TO BE ACHIEVED. FLUSHING SHALL CONTINUE UNTIL THE VOLUME OF WATER IN THE NEWLY INSTALLED MAIN HAS TURNED OVER AT LEAST ONE TIME.
3. THE HYDROSTATIC TEST PRESSURE SHALL BE 75 PSI ABOVE THE STATIC PRESSURE PREVAILING AT THE SITE, BUT IN NO CASE LESS THAN 150 PSI.
4. DURATION: 2 HOURS (WITH PRESSURE MAINTAINED WITHIN 5 PSI OF THE REQUIRED TEST PRESSURE).
5. SHOULD THE PRESSURE TEST FAIL, THE CONTRACTOR SHALL IDENTIFY THE SOURCE(S) AND CORRECT THE DEFICIENCY. THE HYDROSTATIC PRESSURE TEST SHALL BE REPEATED FOR THE PRESCRIBED DURATION TO VERIFY THAT THE NEW WATER MAIN MEETS THE TEST CRITERIA. WORK PERFORMED TO IDENTIFY AND CORRECT FAILURE SOURCE(S) AND THEIR REMEDIATION MUST BE COMPLETED TO THE SATISFACTION OF CLEVELAND WATER AT NO ADDITIONAL COST.

DISINFECTION

1. DISINFECTION FOR WATER MAINS SHALL ADHERE TO THE REQUIREMENTS SET FORTH IN THE MOST CURRENT REVISION OF AWWA C651.

SERVICE CONNECTIONS

1. SADDLE TAPPING SHALL BE PERFORMED FOR PIPES OF ANY NOMINAL SIZE AND PRESSURE CLASS. TAP SIZE IS LIMITED TO 2-INCHES MAXIMUM.
2. TAPPING SLEEVE AND VALVE IS REQUIRED FOR SERVICE CONNECTIONS LARGER THAN 2-INCHES. THRUST RESTRAINT IS REQUIRED.
3. SERVICE CLAMPS OF SADDLES SHALL PROVIDE FULL SUPPORT AROUND THE CIRCUMFERENCE OF THE PIPE AND PROVIDE A BEARING AREA OF SUFFICIENT WIDTH ALONG THE AXIS OF THE PIPE TO PREVENT DISTORTION WHEN THE SADDLE IS TIGHTENED. NARROW U-BOLT-TYPE STRAPS AND SADDLES HAVING LUGS ARE PROHIBITED.

PIPE JOINTS

1. PIPE JOINTS SHALL ADHERE TO ANSI/AWWA C110/A21.10, C111/A21.11, C153/A21.53, C900, C905, C907 AND C909 REQUIREMENTS AND PROCEDURES FOR JOINT METHODS AND MATERIALS.

4. RESTRAINED JOINTS, AS INDICATED ON THE PLANS, SHALL COMPLY WITH ANSI/AWWA C111/A21.11.

FITTINGS AND APPURTENANCES

1. ALL FITTINGS SHALL BE APPROVED DUCTILE IRON CLASS 350, CEMENT LINED AND FUSION BOND EPOXY COATED CONFORMING TO THE REQUIREMENTS OF ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53.
2. ALL FITTINGS AND PIPES CONNECTED TO FITTINGS SHALL BE RESTRAINED USING A "RETAINED" MECHANICAL JOINT. JOINTS SHALL COMPLY WITH ANSI/AWWA C111/A21.11.
3. ALL FITTINGS MUST HAVE BELL ENDS UNLESS APPROVED BY CLEVELAND WATER.
4. PROVIDE PROPER SUPPORT FOR VALVES, HYDRANTS, AND FITTINGS SUCH THAT THE WEIGHT IS NOT APPLIED TO THE PIPE.

FIELD QUALITY CONTROL

1. PIPE SPIGOT END, BELL END, COUPLER OR FITTING, AND ELASTOMERIC GASKET SHALL BE CLEANED IMMEDIATELY BEFORE ASSEMBLY. DO NOT REMOVE FACTORY INSTALLED GASKETS. APPROVED LUBRICANTS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. PIPE CUTTING SHALL BE CONDUCTED IN ACCORDANCE WITH AWWA C600, C900, AND MANUFACTURER REQUIREMENTS. PIPE SHALL BE MARKED AROUND ITS ENTIRE CIRCUMFERENCE TO ENSURE A SQUARE CUT.
3. CUT ENDS OF PIPE SHALL BE BEVELED TO ENSURE PROPER JOINT ASSEMBLY. USE FACTORY-FINISHED PIPE END AS A GUIDE TO DETERMINE THE ANGLE AND LENGTH OF THE BEVEL. DEBURR AND CLEAN CUT PIPE END PRIOR TO BELL INSERTION.
4. AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL PLUG ALL OPEN PIPE ENDS WITH WATERTIGHT PLUGS AS PER THE "PREVENTATIVE AND CORRECTIVE MEASURES DURING CONSTRUCTION" SECTION OF THE MOST CURRENT REVISION OF AWWA C-651 AS TO PREVENT THE INFILTRATION OR INTRUSION OF ANY FOREIGN OBJECTS OR MATERIALS. DATE STAMPED DIGITAL PHOTOS SHALL BE PROVIDED FOR EACH WORKDAY DEMONSTRATING THAT PROPER AWWA C-651 METHODS WERE USED TO PLUG ALL OPEN WATER MAIN ENDS. EACH PHOTO SHALL CLEARLY IDENTIFY THE STATION AT WHICH THE PIPE IS PLUGGED BY USE OF A STATION MARKER PLACED AT THE PLUGGED PIPE END. PHOTOS SHALL BE SUBMITTED ON A DAILY BASIS UNLESS OTHERWISE DEFINED BY THE CLEVELAND WATER INSPECTOR OR ENGINEER. ALL PHOTOS TAKEN OVER THE COURSE OF THE PROJECT SHALL BE SUBMITTED BY THE CONTRACTOR AS PART OF THE AS-BUILT SUBMITTAL. PHOTOS ARE TO INCLUDE STATIONING MARKERS. AS-BUILTS SHALL BE DEEMED INCOMPLETE WITHOUT SAID COLLECTION OF DIGITAL PHOTOS.
5. CLEVELAND WATER INSPECTORS SHALL BE INVITED TO WITNESS TRACER WIRE VERIFICATION FOR PVC PIPE INSTALLATIONS. THIS VERIFICATION SHALL BE PERFORMED UPON COMPLETION OF ROUGH GRADING AND AGAIN PRIOR TO THE FINAL ACCEPTANCE OF THE PROJECT. CONTINUITY TESTING IN LIEU OF ACTUAL LINE TRACING SHALL NOT BE ACCEPTED. CLEVELAND WATER WILL REQUIRE COMPLETION OF THE FIRST VERIFICATION PRIOR TO CHLORINATION, WITH CERTIFICATION SUBMITTED ALONG WITH RED LINE DRAWINGS. CERTIFICATION OF THE SECOND VERIFICATION SHALL BE PROVIDED WITH AS-BUILT DRAWINGS.



CITY OF CLEVELAND
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF WATER (CWD)

REVISIONS		GUIDELINES FOR WATER MAIN INSTALLATION AND REPLACEMENT	
NO.	DATE	BY	
			DETAIL NO.: GEN-000B
			SCALE: N.T.S. DATE: 5/31/2024

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WATER WORK

ITEM SPECIAL - MISCELLANEOUS METAL

THE ENGINEER SHALL INSPECT THE EXISTING CASTINGS ON ALL STRUCTURES WITHIN THE WORK LIMITS, EXCEPTING CASTINGS ON STRUCTURES OWNED BY PRIVATE COMPANIES AND CASTINGS ON STRUCTURES TO BE REMOVED AND/OR REPLACED. THOSE CASTINGS THAT THE ENGINEER DETERMINES ARE UNSUITABLE SHALL BE REPLACED. TO PROVIDE FOR THIS CONTINGENCY, AN ESTIMATED QUANTITY OF ITEM SPECIAL - MISCELLANEOUS METAL HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL CASTING MATERIALS SHALL CONFORM TO ITEM 611 OR ITEM 638, IF APPLICABLE, AND HAVE THE PRIOR APPROVAL OF THE ENGINEER.

WHERE IT IS NECESSARY TO REPLACE UNSUITABLE WATER MANHOLE CASTINGS (FRAMES AND COVERS), THEY SHALL BE REPLACED USING CUYAHOGA COUNTY NO. 9 FRAMES AND EITHER NO. 28 COVERS (OR NO.28 SANITARY COVERS FOR SANITARY OR COMBINED SEWERS) OR NO. 37 COVERS, AS DETAILED ON THE CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWINGS MH-10C AND MH-11C.

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, CLEANING, STORAGE AND RESETTING OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE CONTRACTOR'S EXPENSE.

EXCEPT WHERE/IF SPECIFICALLY REQUIRED AND SO SPECIFIED ELSEWHERE IN THE PLANS, THE CONTRACTOR SHALL NOT ORDER ANY OF THE ABOVE CASTINGS UNTIL DIRECTED BY THE ENGINEER, AND IN THE EVENT NO REPLACEMENT CASTINGS ARE REQUIRED, THE ITEM SHALL BE NONPERFORMED.

ALL COST ASSOCIATED WITH FURNISHING ACCEPTABLE NEW CASTING MATERIALS SHALL BE INCLUDED UNDER THIS ITEM. IN ADDITION, THE COST FOR SIMPLY INSTALLING NEW GRATES/COVERS ONLY SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. ALL COST ASSOCIATED WITH SETTING NEW CASTINGS (FRAMES AND COVERS/GRATES) TO GRADE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT STRUCTURE (611) "ADJUSTED TO GRADE, AS PER PLAN" OR "RECONSTRUCTED TO GRADE, AS PER PLAN".

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM SPECIAL - MISCELLANEOUS METAL _____ LB

WATERWORK

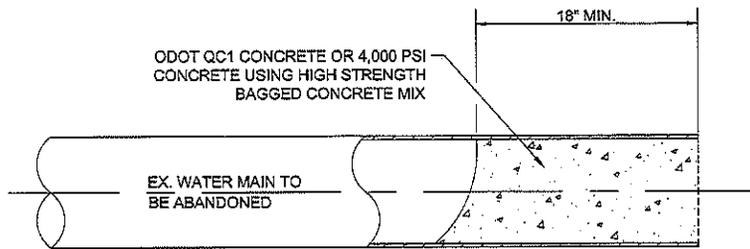
ALL WATERWORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND DRAWINGS OF THE CITY OF CLEVELAND, DEPARTMENT OF PUBLIC UTILITIES, DIVISION OF WATER (CWD), 1201 LAKESIDE AVENUE, CLEVELAND, OHIO (AND THE NOTES & DETAILS SHOWN ON SHEETS 37-45). THE COST OF ALL LABOR, MATERIAL, EQUIPMENT, TOOLS, EXCAVATION, BEDDING AND BACKFILL FOR THE WATER WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR EACH WATER WORK ITEM. THE REPLACEMENT OF PAVEMENT, WALKS, DRIVES, LANDSCAPING AND ALL OTHER WORK EXCEPTING THE "WATERWORK" ITSELF, SHALL BE AS STIPULATED IN THE CONTRACT SPECIFICATIONS.

ALL PERMITS, FEES AND CWD CHARGES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THEIR ASSOCIATED COST SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR THE PERTINENT WATERWORK ITEMS. FOR BIDDING PURPOSES, THE CLEVELAND DIVISION OF WATER CHARGES AND FEES MAY BE FOUND IN SECTION 200 OF THE CUYAHOGA COUNTY ENGINEER SPECIFICATION BOOKLET OR OBTAINED FROM CWD'S WEBSITE AT:

<http://www.clevelandwater.com/construction/construction-fees>

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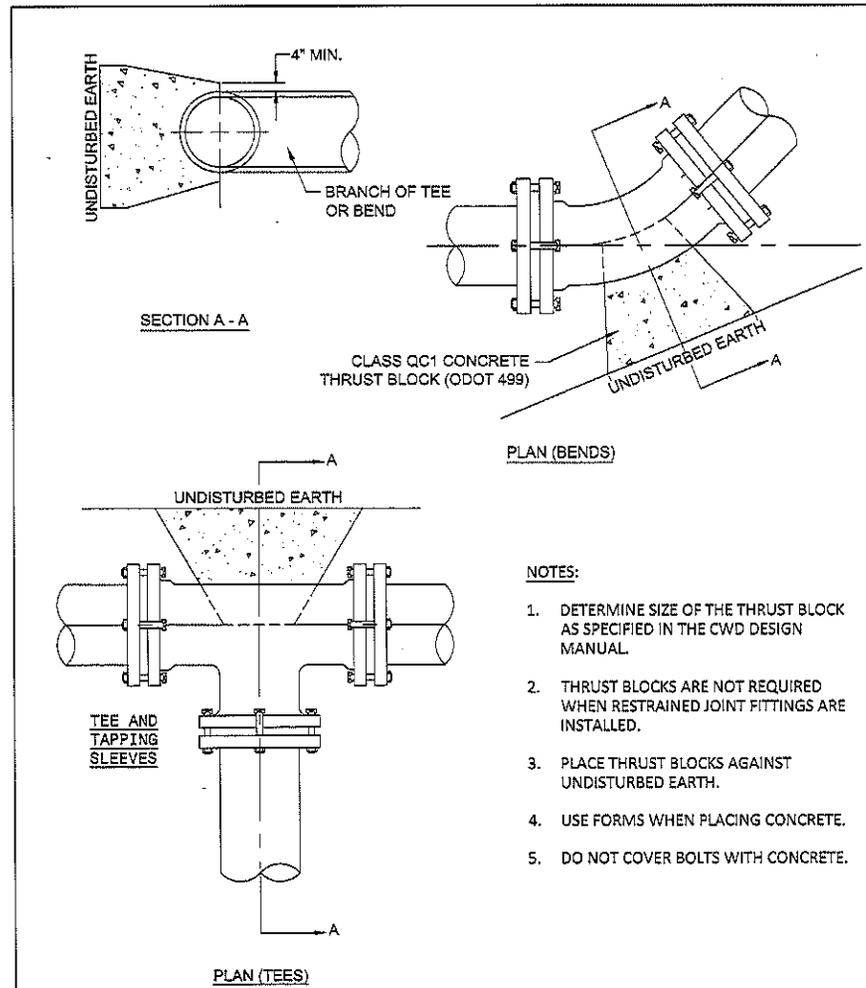
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NOTE:

1. DRAIN THE WATER MAIN COMPLETELY PRIOR TO INSTALLING PLUGS.

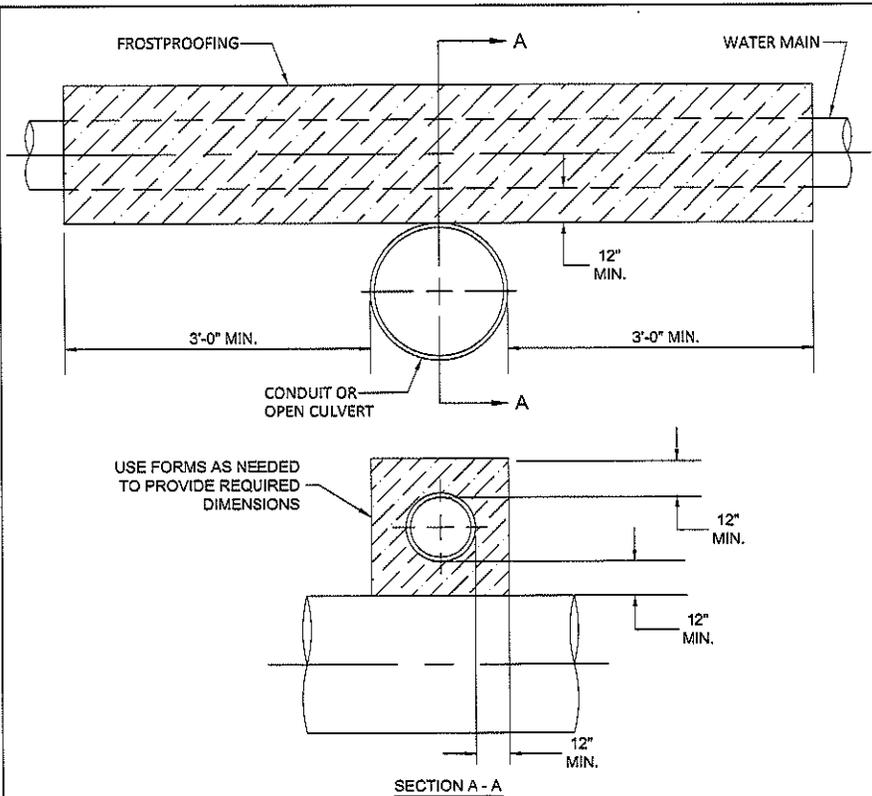
	REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	PLUGGING ABANDONED WATER MAIN ENDS	
	NO.	DATE	BY		DETAIL NO.:	GEN-004
					SCALE: N.T.S.	DATE: 10/31/2023



NOTES:

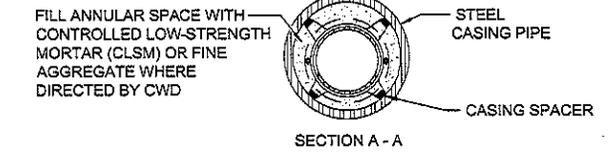
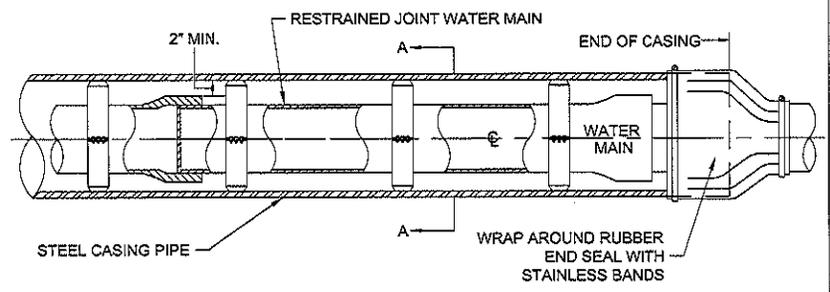
1. DETERMINE SIZE OF THE THRUST BLOCK AS SPECIFIED IN THE CWD DESIGN MANUAL.
2. THRUST BLOCKS ARE NOT REQUIRED WHEN RESTRAINED JOINT FITTINGS ARE INSTALLED.
3. PLACE THRUST BLOCKS AGAINST UNDISTURBED EARTH.
4. USE FORMS WHEN PLACING CONCRETE.
5. DO NOT COVER BOLTS WITH CONCRETE.

	REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	CONCRETE THRUST BLOCKS FOR TEES AND HORIZONTAL BENDS	
	NO.	DATE	BY		DETAIL NO.:	GEN-006
					SCALE: N.T.S.	DATE: 5/31/2024



- NOTES:**
- INSTALL FROSTPROOFING WHERE DIRECTED BY CWD AND:
 - WHERE WATER MAIN IS INSTALLED WITH LESS THAN 5 FT OF COVER.
 - WHERE WATER MAIN CROSSES OVER STORM SEWERS 24-INCHES AND LARGER IN DIAMETER.
 - WHERE WATER MAIN CROSSES OVER OR UNDER OPEN ENDED CULVERTS.
 - DO NOT INSTALL WATER MAIN WITH LESS THAN 3.5 FT OF COVER IN UNPAVED AREAS.
 - DO NOT INSTALL WATER MAIN WITH LESS THAN 3 FT OF COVER BELOW PAVEMENT SUBGRADE.
 - REFER TO MATERIAL CRITERIA DETAIL (GEN-000A) FOR FROSTPROOFING PRODUCT REQUIREMENTS.

	REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	TYPICAL FROSTPROOFING DETAIL	
	NO.	DATE	BY		DETAIL NO.:	GEN-009
					SCALE: N.T.S.	DATE: 5/31/2024

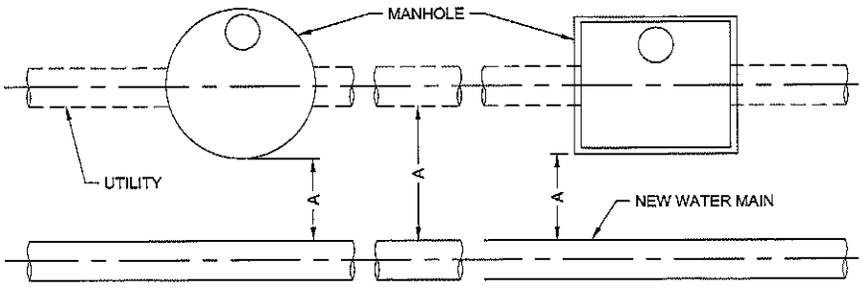


- NOTES:**
- STEEL CASING PIPE:**
- ASTM A1097
 - MIN. 35,000 PSI SMYS
 - MIN. WALL THICKNESS = 3/8"
 - MIN. 2" CLEARANCE BETWEEN OUTSIDE DIAMETER OF PIPE JOINT AND INSIDE DIAMETER OF CASING.
- CASING SPACERS:**
- 8" WIDE STAINLESS STEEL WITH EPDM LINER AND REINFORCED PLASTIC RUNNERS.
- SPACING ON PVC PIPE:**
- 1 AT END OF BELL
 - 1 AT JOINT INSERTION LINE
 - 1 AT PIPE MIDPOINT
- SPACING ON DUCTILE IRON PIPE:**
- MAX. 6 FT

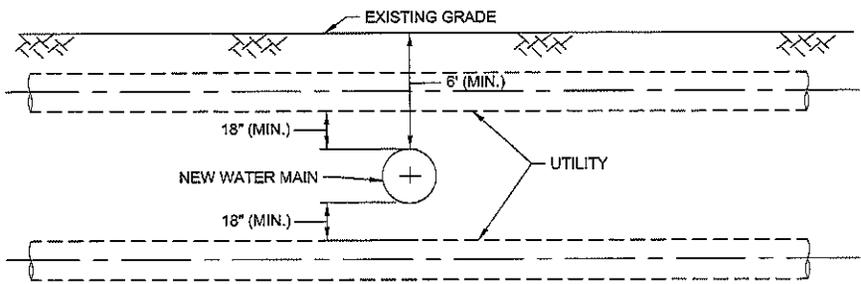
	REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	WATER MAIN IN STEEL CASING	
	NO.	DATE	BY		DETAIL NO.:	GEN-016
					SCALE: N.T.S.	DATE: 7/9/2024

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HORIZONTAL CLEARANCE (A)	
STORM, SANITARY AND COMBINED SEWERS	GAS, DUCTBANK, OTHER UTILITY
10 FT (MIN.)	5 FT (MIN.) *



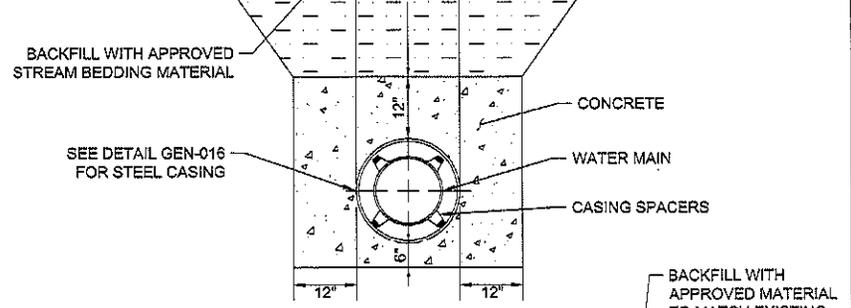
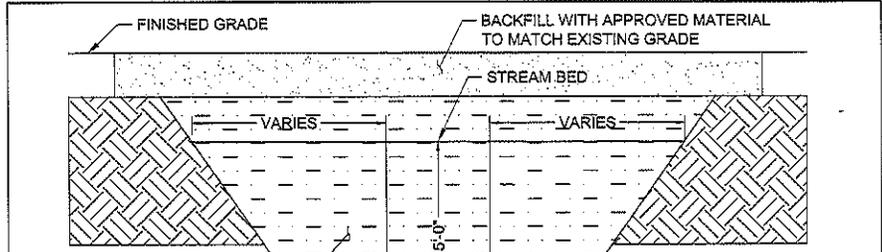
PLAN VIEW



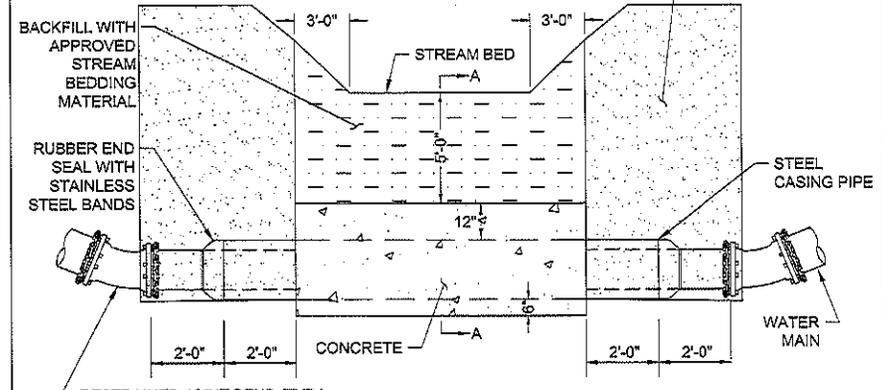
PROFILE VIEW

- NOTES:
- ADJUST HORIZONTAL OR VERTICAL ALIGNMENT AS NEEDED TO ACHIEVE REQUIRED SEPARATION. SEE DETAILS GEN-L01 AND GEN-L02 FOR VERTICAL BEND RESTRAINT AND LOWERING REQUIREMENTS.
 - IF EXISTING SEPARATION IS LESS THAN REQUIRED, SEPARATION MUST BE IMPROVED OR MAINTAINED.
 - SEE SECTION 8.8 OF THE MOST CURRENT VERSION OF '10 STATES STANDARDS - RECOMMENDED STANDARDS FOR WATER WORKS' FOR SEPARATION FROM SEWERS AND SOURCES OF CONTAMINATION.

NO.	REVISIONS		CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	HORIZONTAL AND VERTICAL CLEARANCE FOR UTILITIES	
	DATE	BY		DETAIL NO.:	DATE:
				GEN-017	5/31/2024
				SCALE: N.T.S.	



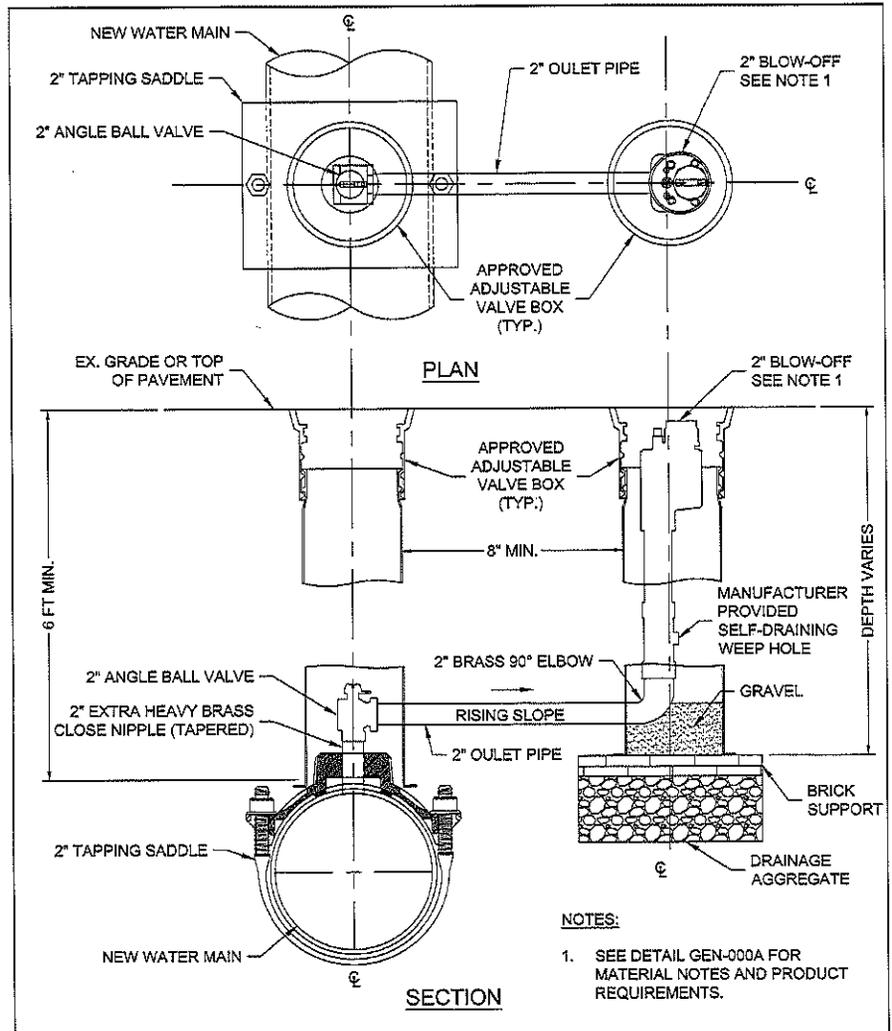
SECTION A - A



PROFILE

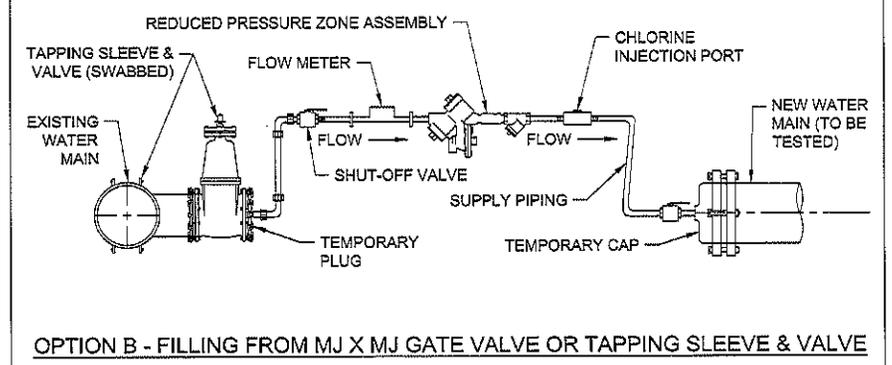
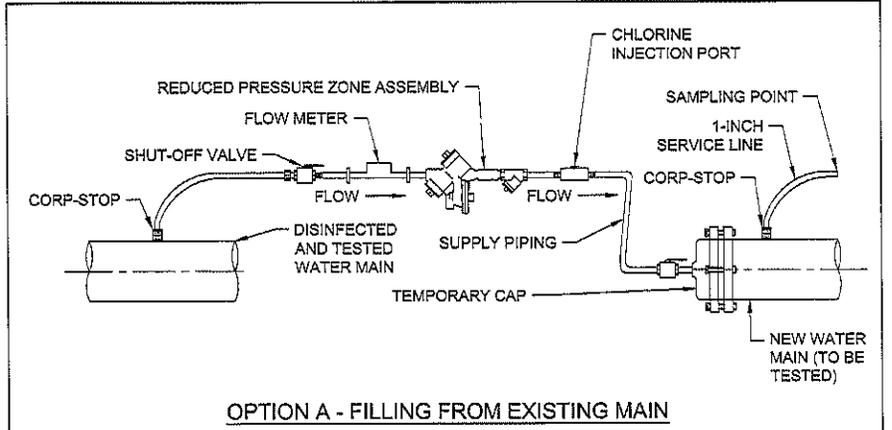
NO.	REVISIONS		CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	CROSSING LARGE DITCHES OR SMALL STREAMS OPEN CUT METHOD	
	DATE	BY		DETAIL NO.:	DATE:
				GEN-020	5/31/2024
				SCALE: N.T.S.	

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REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	2" AIR RELIEF/FLUSHING OUTLET VALVE ASSEMBLY
NO.	DATE	BY		

DETAIL NO.: GEN-A03
SCALE: N.T.S. DATE: 5/31/2024

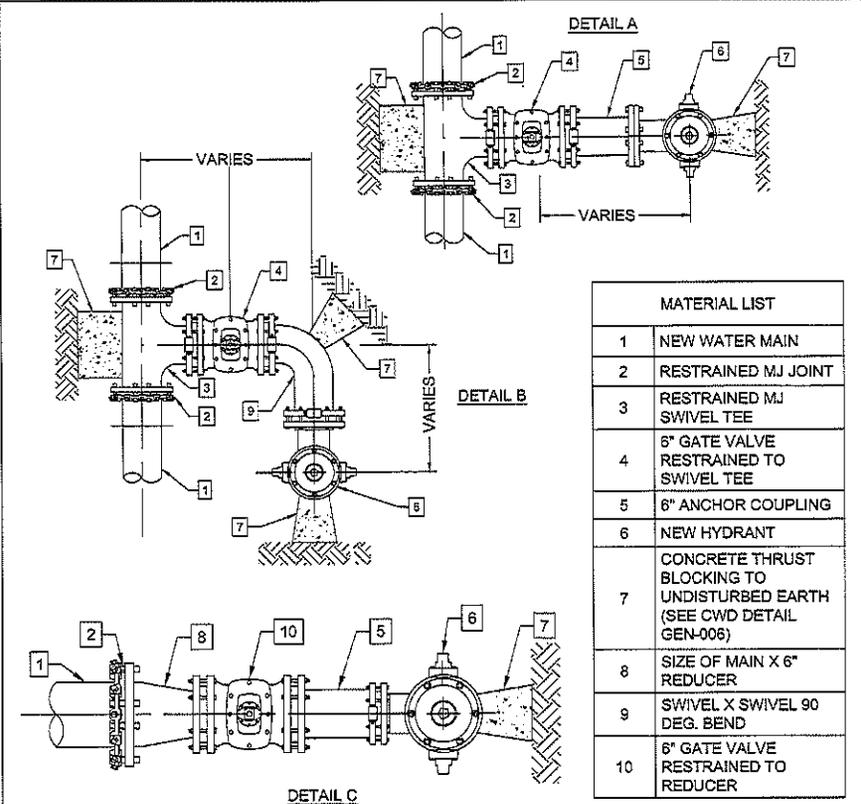


REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	CHLORINATION PORT FOR DISINFECTION
NO.	DATE	BY		

DETAIL NO.: GEN-CL01
SCALE: N.T.S. DATE: 5/29/2024

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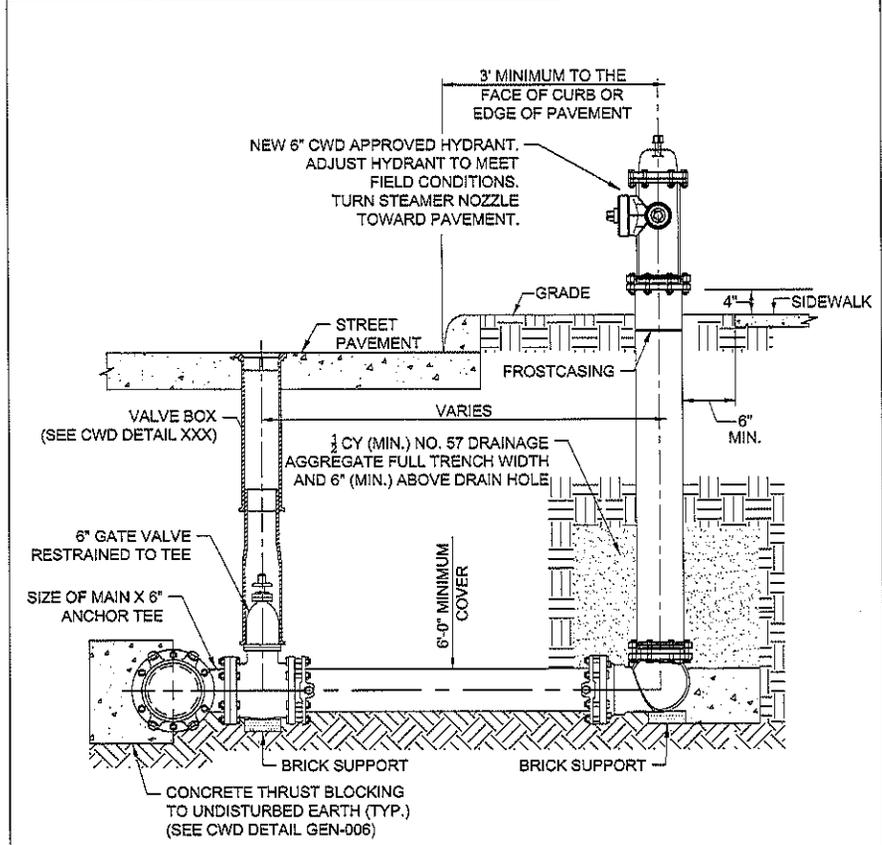
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MATERIAL LIST	
1	NEW WATER MAIN
2	RESTRAINED MJ JOINT
3	RESTRAINED MJ SWIVEL TEE
4	8" GATE VALVE RESTRAINED TO SWIVEL TEE
5	6" ANCHOR COUPLING
6	NEW HYDRANT
7	CONCRETE THRUST BLOCKING TO UNDISTURBED EARTH (SEE CWD DETAIL GEN-006)
8	SIZE OF MAIN X 6" REDUCER
9	SWIVEL X SWIVEL 90 DEG. BEND
10	6" GATE VALVE RESTRAINED TO REDUCER

- NOTES:**
1. INSTALL RESTRAINED JOINTS ON ALL PIPE AND FITTINGS.
 2. ADJUST NEW HYDRANT TO MEET FIELD CONDITIONS. TURN STEAMER NOZZLE TOWARD PAVEMENT.
 3. INSTALL NEW 8" PIPE WITH 36 LF (MIN.) FULLY RESTRAINED JOINTS OR NEW 12" PIPE WITH 54 LF (MIN.) RESTRAINED JOINTS.

REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	TYPICAL NEW HYDRANT INSTALLATION DETAILS	
NO.	DATE	BY		DETAIL NO.:	DATE:
				GEN-H09	5/31/2024



- NOTES:**
1. SEE DETAILS GEN-H02, GEN-H03, GEN-H08 AND GEN-H09 FOR HYDRANT INSTALLATIONS.

REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	6" HYDRANT ELEVATION DETAIL	
NO.	DATE	BY		DETAIL NO.:	DATE:
				GEN-H13	5/28/2024

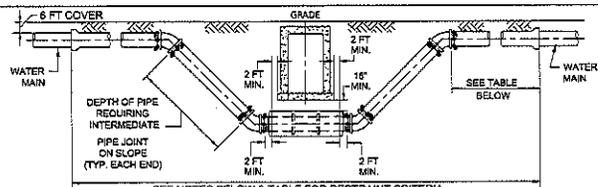


TABLE 1 - RESTRAINED PIPE CRITERIA FOR PIPE LOWERING

DIAMETER	BEND	STATIC PRESSURE	RESTRAINED LENGTHS
8"	11.25°	0-275 PSI	1
	22.5°	0-250 PSI	1
	25.1-275 PSI	2	
12"	45° (°)	0-125 PSI	1
	120-275 PSI	2	
	11.25°	0-275 PSI	1
16"	22.5°	0-165 PSI	1
	168-275 PSI	2	
	0-65 PSI	1	
12"	45° (°)	68-215 PSI	2
	216-275 PSI	3	
	11.25°	0-275 PSI	1
16"	22.5°	0-115 PSI	1
	118-275 PSI	2	
	0-45 PSI	1	
16"	45° (°)	45-165 PSI	2
	168-275 PSI	3	

- NOTES:
1. TO LOWER WATER MAIN TO CLEAR OBSTACLE WHERE DEPTH OF PIPE LOWERING REQUIRES AN INTERMEDIATE JOINT ON SLOPE, THE ENTIRE OFFSET SHALL HAVE D.I. CLASS 52 BOLTLESS RESTRAINED PUSH-ON JOINT PIPE AND FITTINGS, OR AWWA C-900 RESTRAINED JOINT PIPE AS APPROVED BY CWD. JOINT RESTRAINT SHALL EXTEND BEYOND TOP VERTICAL BEND TO THE LIMITS SHOWN IN TABLE 1.
 2. STATIC PRESSURE CALCULATIONS FOR RESTRAINED LENGTHS INCLUDE 75 PSI FOR TESTING.
 3. 45° BENDS REQUIRE CWD AUTHORIZATION.
 4. SEE DETAIL GEN-L02 FOR ADDITIONAL REQUIREMENTS.



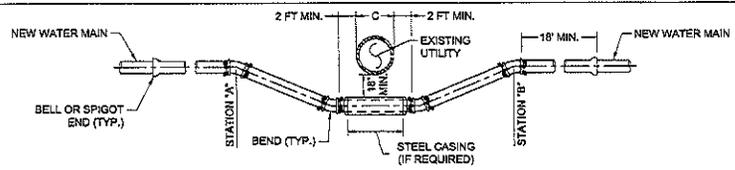
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NO.	DATE	BY

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF WATER (CWD)

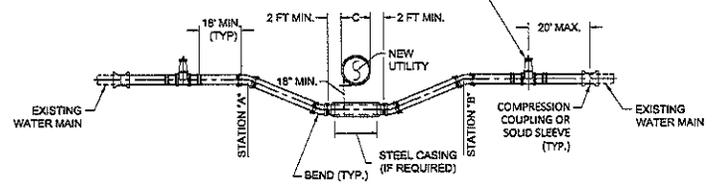
VERTICAL BEND RESTRAINT REQUIREMENTS

DETAIL NO.:	GEN-L01
SCALE:	N.T.S.
DATE:	5/31/2024



INSTALL NEW WATER MAIN UNDER EXISTING UTILITY

NEW VALVE ASSEMBLY WITH VALVE BOX (TYP.)
SEE DETAIL SM-STDS



LOWER EXISTING WATER MAIN UNDER NEW UTILITY

- NOTES:
1. MAX. BEND ANGLE IS 22.5 DEGREES.
 2. NO JOINTS ARE PERMITTED WITHIN 18 FT OF UPPER VERTICAL BENDS.
 3. DO NOT INSTALL NEW WATER SERVICE LINES BETWEEN STATIONS "A" AND "B".
 4. PROVIDE TEMPORARY WATER SERVICE TO EXISTING CUSTOMERS THROUGHOUT CONSTRUCTION.
 5. STEEL CASING IS REQUIRED IF "C" IS 24" OR LARGER.



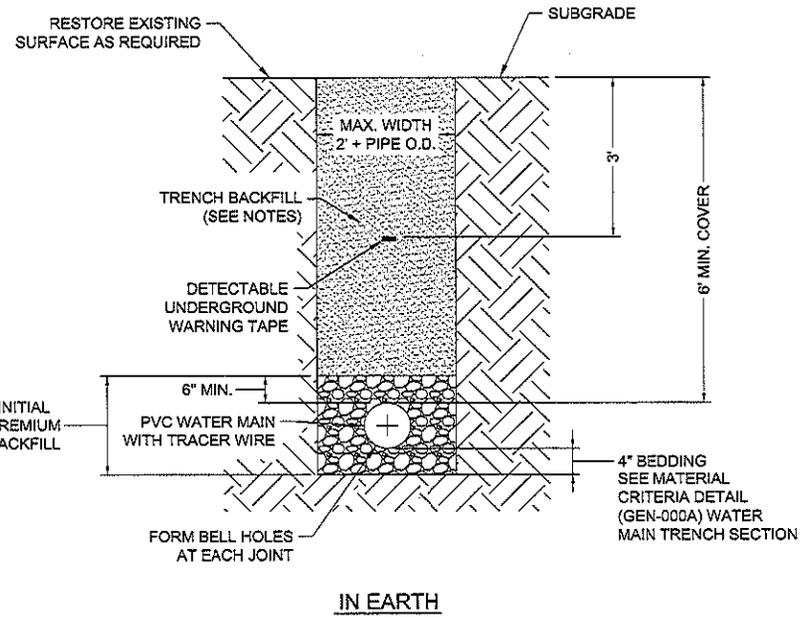
REVISIONS

NO.	DATE	BY

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF WATER (CWD)

WATER MAINS UNDER UTILITIES

DETAIL NO.:	GEN-L02
SCALE:	N.T.S.
DATE:	5/31/2024



IN EARTH

NOTES:

1. PLACE AND COMPACT INITIAL PREMIUM BACKFILL USING HAND-HELD OR WALK BEHIND EQUIPMENT. DO NOT ALLOW BACKFILL MATERIAL TO FREE-FALL INTO TRENCH.
2. UNDER EXISTING AND FUTURE PAVEMENT, SIDEWALKS, AND DRIVEWAYS WITHIN THE CITY OF CLEVELAND CORPORATION LIMITS, PLACE AND COMPACT CONTROLLED LOW STRENGTH MORTAR - CONTROLLED DENSITY FILL (CLSM-CDF) TRENCH BACKFILL TO PAVEMENT SUBGRADE. PLACE CLSM-CDF IN OTHER MUNICIPALITIES WHERE PERMITTED OR DIRECTED.
3. UNDER EXISTING AND FUTURE PAVEMENT, SIDEWALKS, AND DRIVEWAYS IN OTHER MUNICIPALITIES WHERE PERMITTED, PLACE AND COMPACT PREMIUM TRENCH BACKFILL MATERIAL IN MAXIMUM 5" LIFTS TO 95% OF STANDARD PROCTOR AT +/-2% OF OPTIMUM MOISTURE CONTENT TO PAVEMENT SUBGRADE. IF NOT PERMITTED, FOLLOW LOCAL REQUIREMENTS.
4. IN LAWNS AND STREETScape AREAS, PLACE AND COMPACT SUITABLE TRENCH BACKFILL MATERIAL IN MAXIMUM 6" LIFTS TO 85% OF STANDARD PROCTOR AT +/-3% OF OPTIMUM MOISTURE CONTENT TO FINAL RESTORATION SUBGRADE.



REVISIONS

NO.	DATE	BY

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF WATER (CWD)

WATER MAIN TRENCH DETAILS

DETAIL NO.:	PVC-001
SCALE:	N.T.S.
DATE:	7/9/2024

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PROJECT DESCRIPTION

THE LIGHTING ACTIVITIES OF THIS PROJECT INCLUDE THE INSTALLATION OF POST TOP STREET LIGHTS, CONVENTIONAL STREET LIGHTS, FOUNDATIONS, POLES, RELATED WIRING, CONDUIT, PULL BOXES, AND CONTROL CENTERS.

PROPOSED WORK AND LIGHTING LIMITS ALONG SHELDON ROAD:

- ON EXISTING UTILITY POLES WHICH ARE TO BE RELOCATED, REMOVE LUMINAIRE BRACKETS AND CABLE WIRING.
- INSTALL NEW DECORATIVE POST TOP LIGHTING ON SHELDON BRIDGE.
- INSTALL NEW CONVENTIONAL STREET LIGHTING ALONG SHELDON ROAD.
- CONNECT NEW POST TOP AND CONVENTIONAL STREET LIGHTING SYSTEMS TO EXISTING OVERHEAD ELECTRIC CIRCUIT AS SHOWN IN PLANS.

CEI FIRST ENERGY IS RESPONSIBLE FOR THE ERECTION AND INSTALLATION OF THE RELOCATED UTILITY POLES. CONTRACTOR SHALL COORDINATE CLOSELY WITH CEI FIRST ENERGY FOR THE REMOVAL OF EXISTING LUMINAIRES AND POWER SERVICE TIE-IN.

SPECIFICATION

THESE NOTES ARE SUPPLEMENTAL TO ITEMS 625 AND 725 OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION OF MATERIAL SPECIFICATIONS.

PROPOSED LIGHTING CIRCUITS

ALL NEW LIGHTING AND MODIFIED EXISTING LIGHTING CIRCUITS WILL BE SERVICED FROM 120 / 240 VOLT, SINGLE PHASE POWER SUPPLIES. ALL PROPOSED LIGHTING CIRCUITS WILL BE 120 VOLT, 2 WIRE, SINGLE PHASE, WITH A GROUND CONDUCTOR, WHERE APPLICABLE (NOTED AS 3 #4 OR 3 #10 AWG ON THE KEYNOTES). A SEPARATE GROUNDING CONDUCTOR WILL NOT BE ADDED TO ANY EXISTING CIRCUIT SEGMENT.

ITEM 625, POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE SPECIFICATIONS, THE FOLLOWING IS ADDED.

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

POWER COMPANY	CEI FIRST ENERGY
ADDRESS	6896 MILLER ROAD, SUITE 101, BRECKSVILLE, OHIO 44141
PHONE NUMBER	440-546-8706
CONTACT NAME	JOHN ZASSICK

POWER SERVICE SHALL BE AS PER SPECIFICATION 625 AND STANDARD CONSTRUCTION DRAWING TC-83.10 WITH THE FOLLOWING CONDITIONS:

THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CHARGES MADE BY THE POWER COMPANY FOR WORK BY THE COMPANY IN CONJUNCTION WITH THE ESTABLISHMENT OF THE REQUIRED SERVICE.

THE ENGINEER SHALL ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT THE BILLING ADDRESS IS TO THE MAINTAINING AGENCY NOTED IN THE PLANS. THIS SHALL BE DONE NOT ONLY FOR EACH NEW POWER SERVICE ESTABLISHED BY THIS PROJECT BUT ALSO FOR EACH EXISTING POWER SERVICE, SINCE THERE MAY BE A REASSIGNMENT OF THE RESPONSIBILITY FOR AN EXISTING SERVICE AS A RESULT OF THE WORK PERFORMED BY THIS PROJECT.

THE VOLTAGE SUPPLIED SHALL BE, NOMINALLY, 120 VOLTS.

DISCONNECT SWITCHES AND ELECTRIC METERS ARE NOT TO BE USED ON PROPOSED CIRCUITS SERVICING STREET LIGHTS. UNMETERED CIRCUITS WILL TRANSFER TO CEI FIRST ENERGY. METERED CIRCUITS WILL TRANSFER TO THE RESPECTIVE MUNICIPALITY IN WHICH IT RESIDES.

ELECTRICAL ENERGY FROM EXISTING POWER SERVICES SHALL CONTINUE TO BE CHARGED TO THE MAINTAINING AGENCY. THE CONTRACTOR SHALL PAY ELECTRICAL ENERGY CHARGES FOR THE NEW POWER SERVICES ESTABLISHED BY THIS PROJECT. AFTER ACCEPTANCE OF THE LIGHTING, THE POWER SERVICE ELECTRICAL ENERGY ACCOUNT SHALL BE TRANSFERRED TO THE MAINTAINING AGENCY NOTED IN THE PLANS. THIS SHALL INCLUDE NEW POWER SERVICE ESTABLISHED BY THIS PROJECT AS WELL AS REASSIGNMENT OF EXISTING SERVICE DUE TO WORK PERFORMED BY THIS PROJECT.

SUBMIT SHOP DRAWINGS (CATALOG CUTS) TO THE ENGINEER / CEI FIRST ENERGY FOR THEIR APPROVAL.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, "POWER SERVICE, AS PER PLAN," WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

CONFLICTS WITH EXISTING UTILITIES

PRIOR TO INSTALLING ANY OF THE PROPOSED STREET LIGHTING EQUIPMENT, PULL BOXES, CONDUIT, AND POWER SUPPLIES, THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO TYPE AND LOCATION OF ALL UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID ANY DAMAGE. ALL REPAIRS TO ANY DAMAGE TO EXISTING OR PROPOSED UTILITIES CAUSED BY THE FAILURE TO COORDINATE WITH THE RESPECTIVE UTILITY COMPANIES AND DRILL APPROPRIATE UTILITY TEST HOLES, WILL BE PAID FOR BY THE CONTRACTOR.

THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UNDERGROUND PIPES, DRAINAGE, ELECTRICAL CONDUIT, DUCT BANKS, WATERLINES, COMMUNICATION DUCTS, AND OTHER STRUCTURES BY CONTACTING OWNERS OF UNDERGROUND UTILITIES AND BY DRILLING APPROPRIATE UTILITY TEST HOLES. REFER TO: ITEM 625, LIGHTING, MISC.: FOUNDATION TEST HOLE.

COORDINATE THE LIGHTING PLANS WITH THE ROADWAY CONSTRUCTION PLANS AND CROSS-SECTIONS. ALL LIGHTING EQUIPMENT SYMBOLS SHOWN ON THE LIGHTING PLANS ARE NOT DRAWN TO SCALE, ARE SHOWN DIAGRAMMATICALLY, AND MAY NOT BE IN THE EXACT LOCATION REQUIRED.

THE CONTRACTOR SHALL MAINTAIN PROPER CLEARANCE FROM ALL OVERHEAD AND UNDERGROUND UTILITIES AND SHALL CONTACT EACH UTILITY FOR SPECIFIC REQUIREMENTS.

ITEM 625, LIGHTING, MISC.: FOUNDATION TEST HOLE

IF UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED THAT PRECLUDE THE USE OF THE STANDARD OR ALTERNATE FOUNDATION DESIGNS, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH COMPLETE INFORMATION REGARDING THE OBSTRUCTION, INCLUDING TYPE (I.E. UTILITY), SIZE, DEPTH, AND LATERAL CLEARANCES TO THE SIDES OF THE FOUNDATION EXCAVATION. THE FOUNDATION HOLE SHALL BE COVERED WITH A STEEL PLATE UNTIL THE ENGINEER DETERMINES IF A NEW FOUNDATION LOCATION WILL BE REQUIRED.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, LIGHTING, MISC.: FOUNDATION TEST HOLE FOR EACH TEST HOLE PERFORMED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM.

THE FOLLOWING ESTIMATED QUANTITY IS INCLUDED IN THE SUBSUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 625 - LIGHTING, MISC.: FOUNDATION TEST HOLE 4 EACH

ITEM 625, LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), IES-III, 14K LUMEN, 3000K, 120V

THIS ITEM CONSISTS OF SUPPLYING CONVENTIONAL STREET LIGHTING FOR ROADWAY ILLUMINATION AND INSTALLATION AT LOCATIONS INDICATED IN THE PLANS. THIS ITEM SHALL COMPLY WITH THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS 625 AND 725.

LUMINAIRES FOR CONVENTIONAL LIGHTING WITH AN IES III DISTRIBUTION AND 122 WATT LED LAMPS SHALL BE COOPER LIGHTING ARCHEON ARCH-M-AF48-120-D-U-T3-7030, GENERAL ELECTRIC "EVOLVE ERLH" ERLH-I-16-C3-30-X-GRAY-LR, OR EQUAL AS APPROVED BY THE ENGINEER. LUMINAIRES SHALL BE INSTALLED WITH SHIELDING TO PREVENT LIGHT TRESPASS ONTO ADJACENT PROPERTIES.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS FOR ITEM 625, LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), IES-III, 14K LUMEN, 3000K, 120V FOR EACH LUMINAIRE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, HOUSE SIDE SHIELDS, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625, LUMINAIRE, POST TOP, SOLID STATE (LED), IES-II, 2K LUMEN, 3000K, 120V

THIS ITEM CONSISTS OF SUPPLYING DECORATIVE, POST-TOP, LANTERN STYLE LIGHTING FOR ROADWAY ILLUMINATION AND INSTALLATION AT LOCATIONS INDICATED IN THE PLANS. THIS ITEM SHALL COMPLY WITH THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS 625 AND 725.

THE DECORATIVE, POST-TOP, LANTERN LUMINAIRE SHALL HAVE A NOMINAL HEIGHT OF 16 FEET ABOVE THE BRIDGE DECK.

PROVIDE A LUMINAIRE WITH A B-U-G UP-LIGHTING RATING OF U4 OR LESS.

LUMINAIRES FOR DECORATIVE, POST-TOP, LANTERN LIGHTING WITH AN IES II DISTRIBUTION AND 25 WATT LED LAMPS SHALL BE PROVIDENCE SMALL PROS-Y2-2030, OR EQUAL AS APPROVED BY THE ENGINEER. LUMINAIRES SHALL BE INSTALLED WITH SHIELDING TO PREVENT LIGHT TRESPASS ONTO ADJACENT PROPERTIES.

PROVIDE A LUMINAIRE COMPATIBLE WITH THE LIGHTING BRANCH CIRCUIT SHOWN IN THE PLANS. ASSURE THE LUMINAIRE POST-FITTER HAS A HINGED OR CAPTIVE DOOR. ASSURE THE LUMINAIRE CAN MOUNT A PHOTOCELL OR WIRELESS CONTROL THAT USES A NEMA STANDARD PHOTOCELL RECEPTACLE.

PROVIDE A LUMINAIRE WITH 3G VIBRATION RATING. PROTECT EACH LUMINAIRE USING A SURGE PROTECTIVE DEVICE (SPD) CONFORMING TO ODOT SUPPLEMENTAL SPEC 913.

PROVIDE A LUMINAIRE WITH FACTORY-APPLIED BLACK FINISH MEETING SUPPLEMENTAL SPECIFICATION 916.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS FOR ITEM 625, LUMINAIRE, POST TOP, SOLID STATE (LED), IES-II, 2K LUMEN, 3000K, 120V FOR EACH LUMINAIRE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, HOUSE SIDE SHIELDS, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

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CALCULATED
COST
CREATED
MFC

LIGHTING NOTES

CUY-SHELDON RD.

LIGHT POLE ANCHOR BOLTS ON STRUCTURES

FOR LIGHT POLES MOUNTED ON THE BRIDGE PARAPET, THE REQUIRED ANCHOR BOLTS MAY DIFFER IN LENGTH AND/OR SHAPE FROM THOSE REQUIRED WHEN THE POLE IS MOUNTED ON A CAST-IN-PLACE DRILLED SHAFT FOUNDATION. THE COST DIFFERENTIAL FOR FURNISHING SUCH BOLTS IS INCLUDED HEREIN.

IN ADDITION, THERE IS NO FOUNDATION CONSTRUCTION ITEM IN WHICH TO INCLUDE THE SETTING OF THE ANCHOR BOLTS. THUS, THE SETTING OF THE ANCHOR BOLTS INTO THE PARAPET IS ALSO PART OF THIS WORK.

PAYMENT WILL BE MADE AT EACH SUCH POLE LOCATION AT THE UNIT PRICE BID FOR EACH C&M ITEM 625, "LIGHT POLE ANCHOR BOLTS ON STRUCTURE" AND SHALL BE FULL COMPENSATION FOR FURNISHING AND PLACING THE SET OF ANCHOR BOLTS REQUIRED.

CONDUIT EXPANSION AND DEFLECTION

EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XUG, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE EITHER 4 OR 8 INCHES TOTAL MOVEMENT AS SPECIFIED BY THE PLAN DETAILS AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

DEFLECTION COUPLINGS SHALL BE OZ TYPE DX, CROUSE HINDS TYPE XD, OR EQUAL APPROVED BY THE ENGINEER. EACH DEFLECTION COUPLING SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS. MINIMUM DEFLECTION CAPABILITY: 25°.

EXPANSION AND DEFLECTION FITTINGS FULLY OR PARTIALLY EMBEDDED IN CONCRETE, SOIL, OR SIMILAR MATERIAL SHALL BE COMPLETELY WRAPPED IN A NEOPRENE SLEEVE OR SHEET OF 1/2-INCH MINIMUM THICKNESS.

SECURE NEOPRENE WRAP WITH TIE-WRAP PRIOR TO EMBEDMENT OF THE FITTING.

UNDERDRAINS FOR PULL BOXES

UNDERDRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHEN THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 40 FEET. AN ESTIMATED QUANTITY OF 32 FEET OF ITEM 611 - 4" CONDUIT, TYPE E AND 1 EACH OF ITEM 611 - PRECAST REINFORCED CONCRETE OUTLET IS INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.

ITEM 625 - UNDERGROUND WARNING/MARKING TAPE, AS PER PLAN

THE LOCATION OF CONDUIT IN TRENCH SHALL BE MARKED BY THE USE OF A CONTINUOUS IDENTIFYING TAPE BURIED IN THAT TRENCH ABOVE THE CONDUIT LINE. IN ADDITION TO THE REQUIREMENTS OF 625.20 AND 725.22, THE TAPE SHALL BE RED WITH THE WORDS "ELECTRIC" PRINTED IN BLACK LETTERS ON ONE SIDE ONLY.

THE CONTRACTOR SHALL BURY THE TAPE IN THE TRENCH WITH ONE STRIP PLACED APPROXIMATELY DOWN THE CENTER LINE AND 6" TO 10" BELOW THE FINAL GRADE. THE TAPE SHALL BE "TERRA TAPE", "ALLEN SYSTEMS", OR AN EQUAL AS APPROVED BY THE ENGINEER IN ADVANCE.

PAYMENT FOR ITEM 625 - UNDERGROUND WARNING/MARKING TAPE, AS PER PLAN WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER FOOT, COMPLETE AND IN PLACE. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DESCRIBED HEREIN.

ITEM 625 - GROUND ROD, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 625.16, THIS ITEM SHALL CONSIST OF FURNISHING AND RUNNING OF A SEVEN (7) STRAND, NO 4, AWG COPPER WIRE FROM THE TOP OF THE GROUND ROD AND ATTACHING IT TO THE NEUTRAL BAR IN THE CABINET.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH.

POLE FOUNDATION ELEVATIONS

ELEVATIONS SHOWN IN THE PLANS FOR POLE FOUNDATIONS ARE FOR COMPUTATIONAL PURPOSES ONLY. THE ACTUAL ELEVATION OF THE FOUNDATION SHALL BE IN ACCORDANCE WITH TRAFFIC SCD TC.21-21 PROVIDED THE EXISTING SLOPE IS LESS THAN 6:1.

AT LOCATIONS WHERE THE EXISTING SLOPE IS 6:1 OR GREATER, THE BURIED DEPTH OF FOUNDATION, AS SHOWN IN SCD TC.21-21 SHALL APPLY TO THE LOW SIDE OF THE SLOPE. THE TOP OF THE FOUNDATION SHALL BE SET 2 INCHES (50 MILLIMETERS) ABOVE THE EXISTING SURFACE ON THE HIGH SIDE OF THE SLOPE. THE ADDITIONAL DEPTH OF FOUNDATION NECESSARY TO MEET THESE REQUIREMENTS SHALL BE ADDED TO THE FORMED TOP.

ITEM SPECIAL, MAINTAIN EXISTING LIGHTING

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND WHICH ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF THE EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF EXISTING LIGHTING SHALL BE MADE BY ODOT'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE NOT STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE THE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT SHALL BE MADE AND SIGNED AS OUTLINED HEREIN.

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC CRASHES.

REPLACEMENT OF KNOCKED DOWN UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A UNIT BASIS.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENT.

WHEN THE SEQUENCE OF CONSTRUCTION ACTIVITIES REQUIRES, OR SHOULD THE CONTRACTOR DESIRE, THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY LIGHTING OF THIS PORTION OF THE ROADWAY.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR SETS OF THE TEMPORARY LIGHTING PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATIONS OF POLES, LENGTHS OF BRACKET ARMS, STYLES OF LUMINAIRES, MOUNTING HEIGHTS, WIRING METHODS AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 3:1. MOUNTING HEIGHT OF TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 30 FEET, AND THE MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "B" FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THESE CRITERIA, THEN UNDERGROUND WIRING SHALL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING. ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

WHEN THE PROJECT BEGINS AND THE CONTRACTOR HAS TAKEN OVER MAINTENANCE OF THE EXISTING FACILITIES, THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED LAYOUTS AND LOCATIONS OF THE EXISTING AND PROPOSED ELECTRICAL CIRCUITS AND RELATED ITEMS WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL LOCATE AND MARK ALL UNDERGROUND ELECTRICAL CIRCUITS (INCLUDING TRAFFIC LOOPS AND LOOP LEAD-INS) FOR THE DURATION OF THE PROJECT.

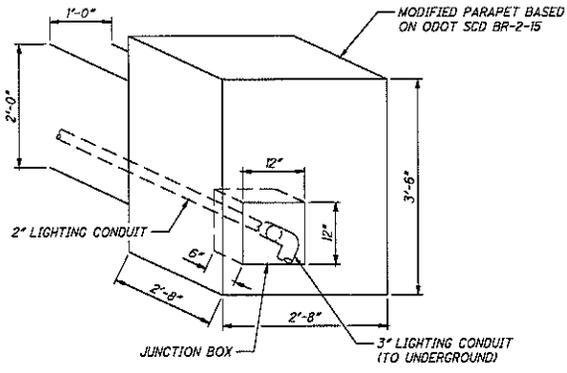
THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE OF THE LIGHTING WORK. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "MAINTAIN EXISTING LIGHTING" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

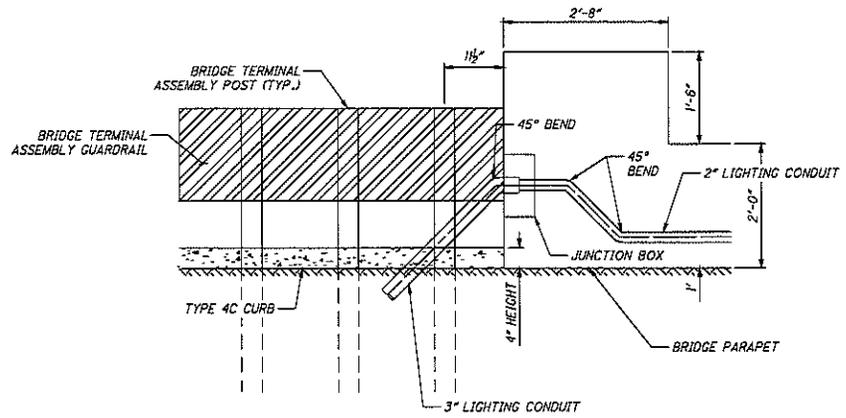
THE UNIT PRICE BID FOR ITEM SPECIAL "REPLACEMENT OF EXISTING LIGHTING UNIT" SHALL BE FULL PAYMENT FOR THE REPLACEMENT OF AN EXISTING LIGHTING UNIT WHICH HAS BEEN KNOCKED DOWN AFTER THE AFOREMENTIONED INSPECTION AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REPLACEMENT FOR SUCH UNIT.

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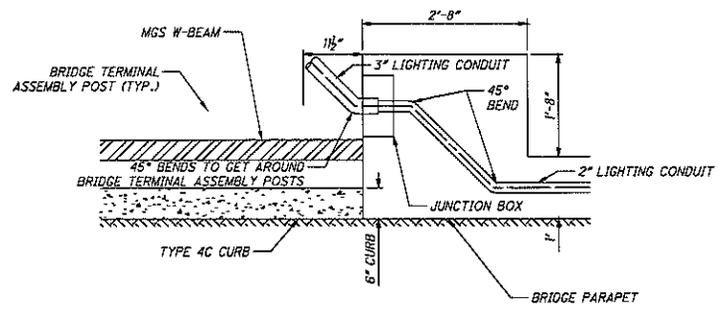
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STRUCTURE CONDUIT DETAIL I



STRUCTURE CONDUIT DETAIL II - ELEVATION VIEW



STRUCTURE CONDUIT DETAIL II - PLAN VIEW

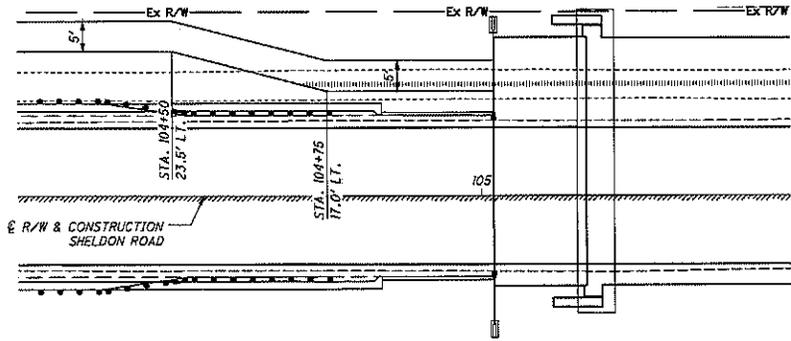
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CALCULATED

LIGHTING DETAILS

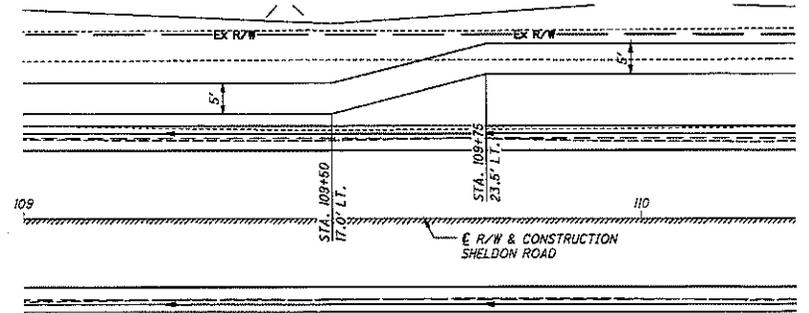
CUY-SHELDON RD.

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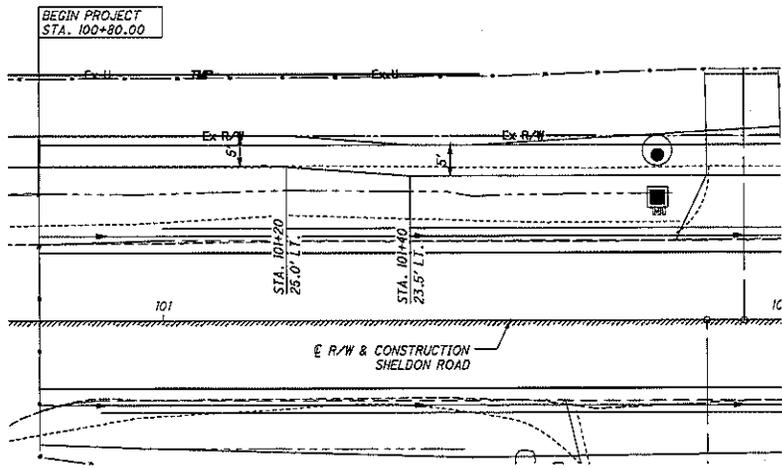
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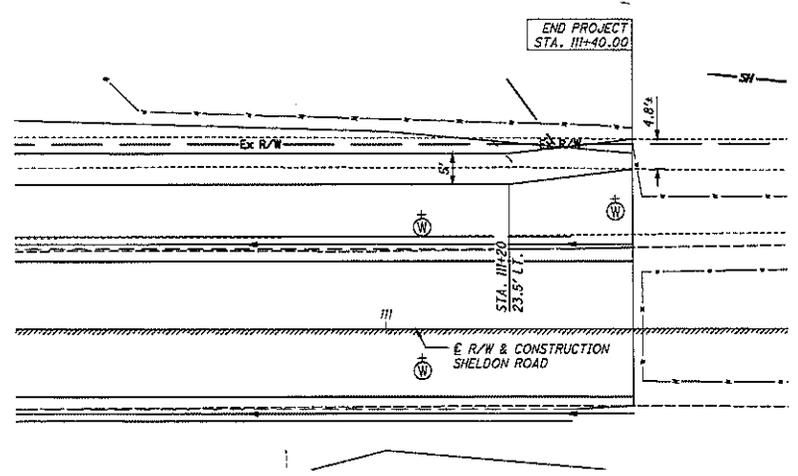
SIDEWALK SHIFT DETAILS
WEST SIDE OF BRIDGE



SIDEWALK SHIFT DETAILS
EAST SIDE OF BRIDGE



SIDEWALK SHIFT DETAILS
WEST END OF PROJECT



SIDEWALK SHIFT DETAILS
EAST END OF PROJECT

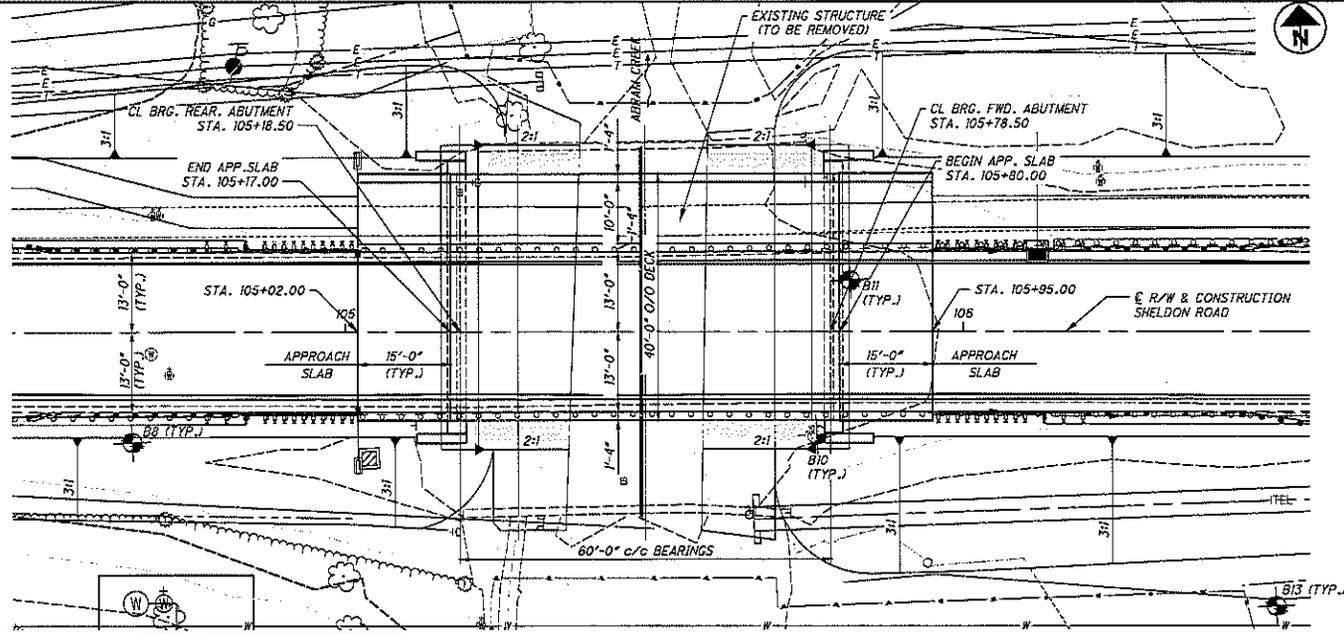
VERTICAL SCALE: 1" = 20' FEET
HORIZONTAL SCALE: 1" = 40' FEET
CALCULATED
COM
CHECKED
DATE

SIDEWALK
DETAILS

CUY-SHELDON RD.

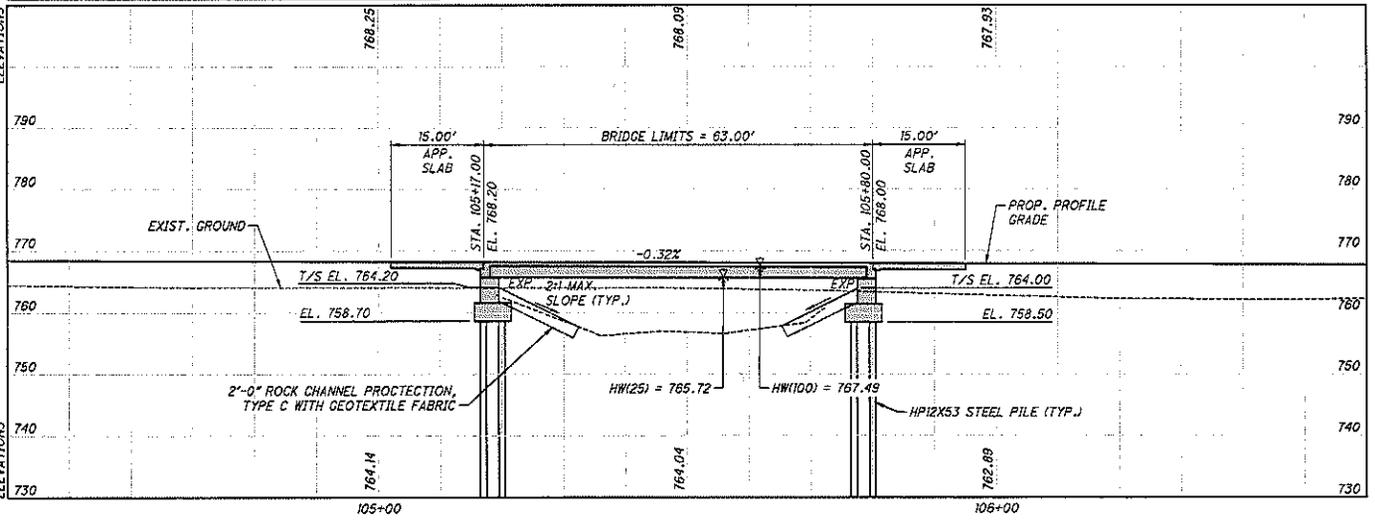
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 EXISTING PROFILE ELEVATIONS
 PROPOSED PROFILE ELEVATIONS



ESTIMATED PILE LENGTHS		
LOCATION	PILE TYPE	LENGTH
REAR ABUTMENT	HP 12x53	76.7'
FORWARD ABUTMENT	HP 12x53	76.0'

PLAN



PROFILE ALONG C CONSTRUCTION SHELDON ROAD

BENCHMARK DATA		
BM #100 STA. 100+44.00	ELEV. 771.10	OFFSET 18.34' LT.
BM #101 STA. 103+71.52	ELEV. 765.11	OFFSET 16.10' RT.
BM #102 STA. 109+56.31	ELEV. 764.27	OFFSET 16.55' RT.
BM #103 STA. 114+00.69	ELEV. 779.28	OFFSET 14.73' RT.

- NOTES**
- EARTHWORK LIMITS SHOWN APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
 - SEE LIGHTING PLANS (SHEETS 47-50) FOR BRIDGE LIGHTING.
- LEGEND**
- BORING LOCATION

TRAFFIC DATA	
CURRENT ADT (2024) = 7420	DESIGN ADT (2044) = 7420
CURRENT ADTT (2024) = 535	DESIGN ADTT (2044) = 536
DIRECTIONAL DISTRIBUTION = 50%	

HYDRAULIC DATA	
DRAINAGE AREA = 4.51 SQUARE MILES	
Q(25) = 740.12 CFS	V(25) = 1.89 FPS
Q(100) = 1060.54 CFS	V(100) = 2.66 FPS
PROPOSED STRUCTURE LOW CHORD IS SUBMERGED IN 25-YEAR FLOW BY 0.02'	
PROPOSED STRUCTURE LOW CHORD IS SUBMERGED IN 100-YEAR FLOW BY 1.79'	

EXISTING STRUCTURE	
TYPE: CAST-IN-PLACE REINFORCED CONCRETE RIGID FRAME (BOX) STRUCTURE (20'W X 7'H)	
SPAN: 20'(s)	
ROADWAY: 34'-4"(s) OUT/OUT	
SKEW: NONE	
WEARING SURFACE: ASPHALT CONCRETE	
ALIGNMENT: TANGENT	
CROWN: 0.016%/ FT/FT	
STRUCTURE FILE NUMBER: 1830996	
DATE BUILT: 1934 MAJOR REHAB: NONE	
DISPOSITION: TO BE REPLACED	

PROPOSED STRUCTURE	
TYPE: SINGLE SPAN COMPOSITE PRESTRESSED CONCRETE BOX BEAMS WITH REINFORCED CONCRETE ABUTMENTS	
SPANS: 60'-0" c/c BEARINGS	
ROADWAY: 26'-0" FACE/FACE PARAPET, 10'-0" SIDEWALK	
LOADING: HL93, FWS = 0.060 KSF	
SKEW: NONE	
WEARING SURFACE: 1.25" MONOLITHIC CONCRETE	
APPROACH SLABS: AS-1-15 (15'-0" LONG)	
ALIGNMENT: TANGENT	
CROWN: 0.0160 FT/FT	
COORDINATES: LATITUDE 41° 23' 19" N	
LONGITUDE 81° 48' 51" W	
DECK AREA: 2,520 SQUARE FEET	

EUTHEONICS
 DESIGN AGENCY
 4551 HAWTHORNE BLVD., SUITE 100
 WILSONVILLE, OR 97150
 TEL: 503.670.1234
 FAX: 503.670.1235
 WWW.EUTHEONICS.COM

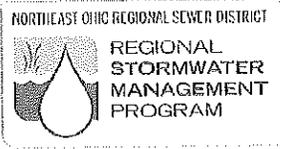
DESIGNED	DATE
BRANK	3-15-24
REVIEWED	LAB
STRUC. FILE NUMBER	1830996
DESIGNED	CHECKED
BIBL	BFS
CUYAHOGA COUNTY	
STA. 105+17.00	
STA. 105+80.00	

SITE PLAN
 SHELDON RD
 OVER ABRAM CREEK

CUY-SHELDON RD.
 PID No. N/A

1 / 2
 52
 53

EXHIBIT F



**Community Cost-Share Program
REQUEST FUND TRANSFER
TO NORTHEAST OHIO REGIONAL SEWER DISTRICT**

Project Information

Member Community: _____

Project Title: _____

Amount to be Transferred to NEORS D: _____

Authorized Signature

I certify that the costs outlined in this reimbursement request have been incurred in accordance with the approved project proposal as set forth in the Community Cost-Share agreement document(s). Furthermore, I affirm that the information contained herein is, to the best of my knowledge and belief, accurate and complete.

Name (print or type): _____

Title: _____

Telephone Number: _____

Email Address: _____

Signature: _____

Date: _____