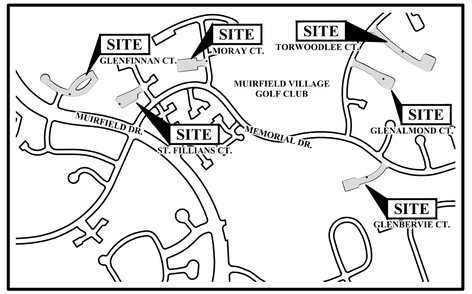
DUBLIN: PROJ. 14-012-CIP

City of Dublin

CITY OF DUBLIN, OHIO
WATERLINE REPLACEMENT

MUIRFIELD VILLAGE WATERLINE IMPROVEMENTS - PHASE 2 - 14-012-CIP

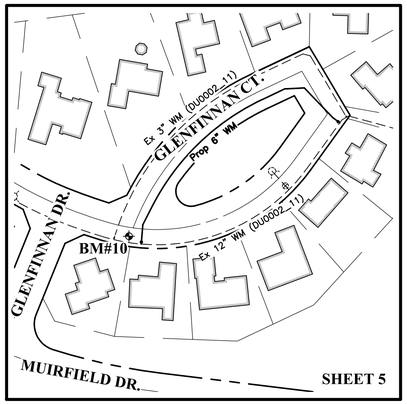
2014



LOCATION MAP
Scale: 1" = 800'

OHIO Utilities Protection SERVICE
Call Before You Dig
800-362-2764 or 8-1-1
www.oups.org

SHEET INDEX



GLENFINNAN CT. - INDEX MAP
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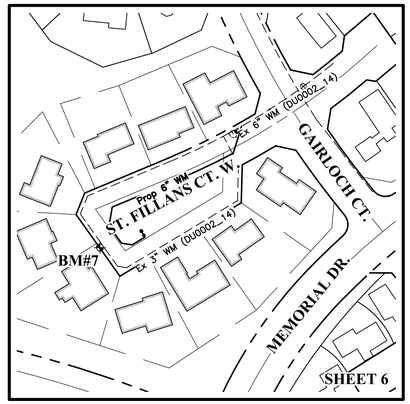

ST. FILLANS CT. W. - INDEX MAP
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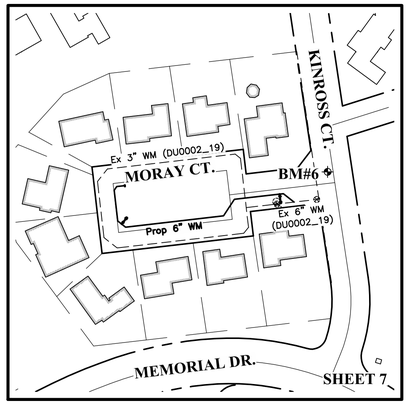

MORAY CT. - INDEX MAP
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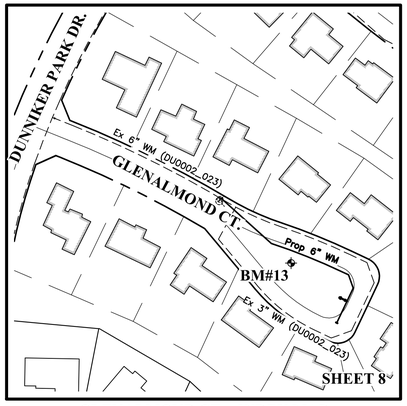

GLENALMOND CT. - INDEX MAP
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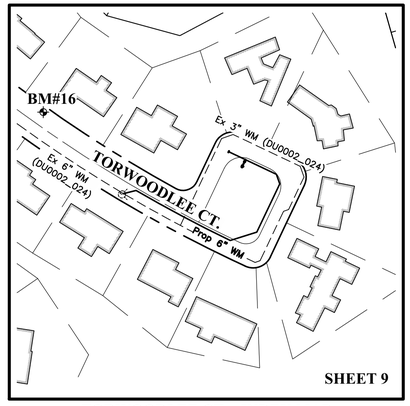

TORWOODLEE CT. - INDEX MAP
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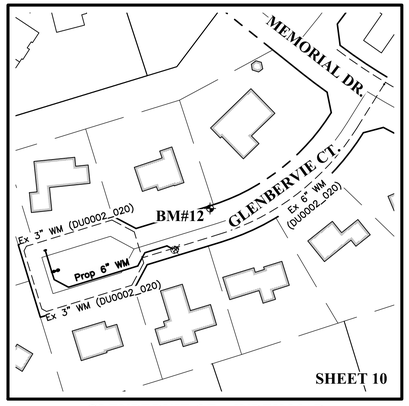


GLENBERVIE CT. - INDEX MAP
Scale: 1" = 100'

STANDARD CONSTRUCTION DRAWINGS

The Standard Construction Drawings listed on these plans are to be considered a part thereof.

City of Columbus			City of Dublin
L-1001	L-6316 A&B	2180	WA-01
L-1003	L-6637 A		RD-01
L-1004	L-6640		RD-07
L-6306	L-7102 B		
L-6309A	L-9901		
L-6310	1441		
L-6311	2160		
L-6312	2161		

Signatures below signify only concurrence with the general purposes and general location of the project and does not constitute assurance to operate as intended. All technical details remain the responsibility of the professional civil engineer preparing the plans.

APPROVED:

City Engineer, City of Dublin, Ohio — Date

Note: Approval on the part of the City of Columbus is given the pursuant to the provisions of the Water Service Agreement between the City of Dublin, Ohio and the City of Columbus, Ohio, on April 13, 1993 and all subsequent amendments thereof.

Director, Department of Public Utilities
City of Columbus, Ohio — Date

Administrator, Division of Water
City of Columbus, Ohio — Date

BID SET
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
May, 2014

PREPARED BY:

EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

Registered Engineer No. — Date

DUBLIN: PROJ. 14-012-CIP

COC: PROJ. 14-050

REVISIONS

MARK	DATE	DESCRIPTION

City of Dublin

CITY OF DUBLIN, OHIO
WATERLINE REPLACEMENT
MUIRFIELD VILLAGE WATERLINE IMPROVEMENTS - PHASE 2 - 14-012-CIP
TITLE SHEET

EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE: May, 2014

SCALE: As Noted

JOB NO.: 2014-0167

SHEET: 1/13

GENERAL NOTES

1. City of Columbus and Ohio Department of Transportation Construction and Material Specifications, current editions, and any supplements thereto (hereafter referred to as Standard Specifications), shall govern all construction items unless otherwise noted. If a conflict between specifications is found, the more strict specification will apply as decided by the City Engineer. Item Numbers listed refer to City of Columbus Item Numbers unless otherwise noted.

2. The City Engineer will not be responsible for means, methods, procedures, techniques, or sequences of construction that are not specified herein. The City Engineer will not be responsible for safety on the work site, or for failure by the Contractor to perform work according to contract documents.

3. The Owner shall be responsible to obtain all necessary permits including but not limited to Ohio EPA Water Permits to Install (PTI) and, etc.

4. The Contractor shall notify the City of Dublin Division of Engineering in writing at least 3 working days prior to beginning construction.

5. The Contractor shall be solely responsible for complying with all federal, state and local safety requirements including the Occupational Safety and Health Act of 1970. The Contractor shall exercise precaution always for the protection of persons (including employees) and property. It shall also be the sole responsibility of the Contractor to initiate, maintain and supervise all safety requirements, precautions and programs in connection with the work, including the requirements for confined spaces per 29 CFR 1910.146.

6. Deleted

7. The Contractor shall restrict construction activity to public right-of-way and areas defined as permanent and/or temporary construction easements, unless otherwise authorized by the City Engineer.

8. The Contractor shall carefully preserve benchmarks, property corners, reference points, stakes and other survey reference monuments or markers. In cases of willful or careless destruction, the Contractor shall be responsible for restorations. Resetting of markers shall be performed by an Ohio Professional Surveyor as approved by the City Engineer.

9. Non-rubber tired vehicles shall not be moved on or across public streets or highways without the written permission of the City Engineer.

10. The Contractor shall restore all disturbed areas to equal or better condition than existed before construction. Drainage ditches or watercourses that are disturbed by construction shall be restored to the grades and cross-sections that existed before construction.

11. Tracking or spilling mud, dirt or debris upon streets, residential or commercial drives, sidewalks or bike paths is prohibited according to Section 97.38 of the Dublin Code of Ordinances. Any such occurrence shall be cleaned up immediately by the Contractor at no cost to the City. If the Contractor fails to remove said mud, dirt, debris, or spillage, the City reserves the right to remove these materials and clean affected areas, the cost of which shall be the responsibility of the Contractor.

12. Disposal of excess excavation within Special Flood Hazard Areas (100-year floodplain) is not permitted.

13. All signs, landscaping, structures or other appurtenances within right-of-way disturbed or damaged during construction shall be replaced or repaired to the satisfaction of the City Engineer. The cost of this work shall be the responsibility of the Contractor.

14. All field tile broken or encountered during excavation shall be replaced or repaired and connected to the public storm sewer system as directed by the City Engineer. The cost of this work shall be the responsibility of the Contractor.

15. All precast concrete products shall be inspected at the location of manufacture. Approved precast concrete products will be stamped or have such identification noting that inspection has been conducted by the City of Columbus. Precast concrete products without proof of inspection shall not be approved for installation.

16. Backfill within a 1:1 influence line of existing structures (houses, garages, etc.) or public infrastructure (pavement, curbs, sidewalks, bike paths, etc.) shall be compacted granular backfill according to Item 912 of the Standard Specifications or Flowable CDF, Type II (cement only) according to Item 613. Item 911 of the Standard Specifications shall be used elsewhere.

17. Deleted

18. All trenches within public right-of-way shall be backfilled according to the approved construction drawings or securely plated during nonworking hours. Trenches outside these areas shall be backfilled or shall be protected by approved temporary fencing or barricades during nonworking hours. Clean up shall follow closely behind the trenching operation.

19. All trees within the construction area not specifically designated for removal shall be preserved, whether shown or not shown on the approved construction drawings. Trees to be preserved shall be protected with high visibility fencing placed a minimum 15 feet from the tree trunk. Trees 6 – inches or greater at DBH (Diameter Breast Height) must be protected with fencing placed at the critical root zone or 15 feet, whichever is greater. Trees not indicated on the approved construction drawings for removal may not be removed without prior approval of the Division of Engineering.

20. Deleted.

21. The Contractor shall be responsible for the condition of trenches within the right-of-way and public easements for a period of one year from the final acceptance of the work, and shall make any necessary repairs at no cost to the City.

22. Pavements shall be cut in neat, straight lines the full depth of the existing pavement, or as required by the City Engineer. Pavement replacement shall be conducted according to City of Columbus Standard Drawing 1441 and applicable City of Dublin standard drawings. The replacement of driveways, handicapped ramps, sidewalks, bike paths, parking lot pavement, etc. shall be provided according to the approved construction drawings and City of Dublin standard construction drawings.

23. Tree trimming within the construction zone is to be completed by a certified Arborist. At the completion of the project, the Arborist is to return and trim any broken branches as needed.

24. Any modification to the work shown on drawings must have prior written approval by the City Engineer, City of Dublin.

25. Deleted

26. Deleted

27. Traffic control and other regulatory signs shall be Type S with a square post anchor base installation and meet all requirements of ODOT TC-41.20 and applicable City of Dublin specifications.

28. Street signs shall meet all City of Dublin specifications with lettering colored in white displayed over a brown background. Sign tubing shall be brown in color and conform with the Type S, square post anchor base installation requirements of ODOT TC-41.20.

UTILITIES

1. The following utilities are known to be located within the limits of this project:

Time Warner Cable
Attn: Ray Maurer
3760 Interchange Drive
Columbus, Ohio 43204
Phone: 614-481-5262

AT&T
Attn: Gary Van Almsick
111 N. 4th Street
Columbus, Ohio 43215
Phone: 614-223-6985

Columbia Gas of Ohio
Attn: Dave Kelly
1600 Dublin Road
Columbus, Ohio 43215
Phone: 614-481-1058

AEP
Attn: Paul Paxton
850 Tech Center Drive
Gahanna, Ohio 43230
Phone: 614-883-7832

City of Dublin
5800 Shier-Rings Road
Dublin, Ohio 43016
Phone: 614-410-4676

WOW Internet and Cable
Attn: Danny Quinn
140 Robinwood Avenue
Columbus, Ohio 43213
Phone: 614-235-0167

City of Columbus
Division of Water
910 Dublin Road
Columbus, Ohio 43215
Phone: 614-645-7788

2. The Contractor shall give notice of intent to construct to Ohio Utilities Protection Service (telephone number 800-362-2764), Producer's Underground Protection Service (telephone number 614-587-0486), and to owners of underground utilities that are not members of a registered underground protection service. Notice shall be given at least 2 working days before start of construction.

3. The identity and locations of existing underground utilities in the construction area have been shown on the approved construction drawings as accurately as provided by the owner of the underground utility. The City of Dublin and the City Engineer assumes no responsibility for the accuracy or depths of underground facilities shown on the approved construction drawings. If damage is caused, the Contractor shall be responsible for repair of the same and for any resulting contingent damage.

4. Location, support, protection and restoration of all existing utilities and appurtenances, whether shown or not shown on the approved construction drawings, shall be the responsibility of the Contractor.

5. When unknown or incorrectly located underground utilities are encountered during construction, the Contractor shall immediately notify the City Engineer.

6. Public street lighting may be in the vicinity of this project. Contact the City of Dublin, Division of Engineering at 410-4637, two days prior to beginning work.

TRAFFIC CONTROL (REF. SHEET 11 FOR ADDITIONAL REQUIREMENTS)

1. Traffic control shall be furnished, erected, maintained, and removed by the Contractor according to Ohio Manual of Uniform Traffic Control Devices (OMUTCD), current edition.

2. Deleted.

3. If the City Engineer determines that the Contractor is not providing proper provisions for traffic control, the City Engineer shall assign uniformed, off-duty police officers to the project at no cost to the City.

4. Steady-burning, Type "C" lights shall be required on all barricades, drums, and similar traffic control devices in use at night.

5. Access from public roadways to all adjoining properties for existing residents or businesses shall be maintained throughout the duration of the project for mail, public water and sanitary sewer service, and emergency vehicles. The Contractor shall provide a traffic control plan detailing the proposed maintenance of traffic procedures. The traffic control plan must incorporate any traffic control details contained herein. The traffic control plan proposed by the Contractor must be approved by the City Engineer prior to construction.

EROSION AND SEDIMENT CONTROL

1. Deleted.

2. The Contractor shall provide sediment control at all points where storm water runoff leaves the project, including waterways, overland sheet flow, and storm sewers.

3. Accepted methods of providing erosion/sediment control include but are not limited to: sediment basins, silt filter fence, aggregate check dams, and temporary ground cover. Hay or straw bales are not permitted.

4. The Contractor shall provide adequate drainage of the work area at all times consistent with erosion control practices.

5. Disturbed areas that will remain unworked for 30 days or more shall be seeded or protected within seven calendar days of the disturbance. Other sediment controls that are installed shall be maintained until vegetative growth has been established. The Contractor shall be responsible for the removal of all temporary sediment devices at the conclusion of construction but not before growth of permanent ground cover.

WATER LINE

1. All water main materials and installations shall be in accordance with the currect rules and regulations of the City of Columbus, Division of Water. All City of Columbus, Division of Water Standard Drawings shall apply to the project, unless otherwise noted.

2. Deleted.

3. Only fire hydrants conforming to City of Dublin standards will be approved for use.

4. Public water lines shall be disinfected by the City of Columbus Division of Water. Requests for water line chlorination shall be made through the City of Dublin Division of Engineering. The cost for chlorination shall be paid for by the Contractor.

5. All water mains shall be disinfected in accordance with section 801.15 of the City of Columbus Construction and Material Specifications. Special attention is directed to applicable sections of A.W.W.A. C-651. When the water mains are ready for disinfection, the City of Dublin shall submit a written request for chlorination of the mains that need disinfected, three (3) sets of "as-built" plans (full size sheets only), the as-built survey coordinates, water service reports and a pressure test to the City of Columbus, Division of Water. The Contractor shall be responsible for all costs associated with the disinfection of all water mains constructed under this plan.

6. The Contractor shall paint all fire hydrants according to City of Dublin standards. The cost of painting fire hydrants shall be included in the contract unit price for fire hydrants. Hydrants shall be shop-painted and not painted in the field.

7. No water taps or service connections (e.g., to curb stops or meter pits) may be issued until adjacent public water lines serving the construction site have been disinfected by the City of Columbus Division of Water and have been accepted by the City Engineer. A tap permit for each water service must be obtained from the City of Dublin and the City of Columbus Division of Water before making any taps into public water lines.

8. The Contractor shall notify the City of Columbus Division of Water at 645-7788 and the City of Dublin Division of Engineering at least 24 hours before tapping into existing water lines.

9. Deleted.

10. All bends, joint deflections and fittings shall be backed with concrete per City of Columbus standards.

11. The Contractor shall give written notice to all affected property owners at least 1 working day but not more than 3 working days prior to any temporary interruption of water service. Interruption of water service shall be minimized and must be approved by the City Engineer.

12. Deleted.

13. Deleted.

14. Water service boxes shall be placed 1' from the edge of the proposed or existing sidewalk between the sidewalk and the curb, or 2 feet inside the right-of-way or easement line when no sidewalk is present or proposed. Refer to Standard Drawing L-9901 for additional information.

15. If the top of the operating nut of any valve is greater than 36 inches below finished grade, an extension stem shall be furnished to bring the top of the operating nut to within 24 inches of finished grade elevation.

16. All water lines shall be placed at a minimum depth of 4 feet measured from top of finished grade to top of water line. Water lines shall be set deeper at all points where necessary to clear existing or proposed utility lines or other underground restrictions by a minimum of 18 inches.

17. Two ¾ inch taps shall be installed within 2 feet of the end of the line on all dead-end water lines.

ADDITIONAL WATER LINE NOTES (CITY OF COLUMBUS)

The City of Columbus Construction and Material Specifications, 2012 edition, including all supplements thereto, shall govern all construction items that are a part of this plan, unless otherwise noted.

It shall be unlawful for any person to perform any work on City of Columbus water line systems without first securing license to engage in such work, as indicated in Columbus City Code Section 1103.02 and 1103.06. This work includes any attachments, additions to or alterations in any city service pipe or appurtenances (including water service lines and taps). This requirement may be met by utilization of a subcontractor who holds a City of Columbus Water Contractor License or a Combined Water/Sewer Contractor License to perform this work. Utilization of a subcontractor must meet the licensing requirements of City of Columbus Building Code, in particular Section 4114.119 and 4114.529.

No person shall begin construction or installation of a public water main until plans have been approved by the State of Ohio Environmental Protection Agency (OEPA).

All water mains shall be cleaned and flushed, also any water main 12-inch and larger must be properly pigged, in accordance with section 801.13 of the City of Columbus, Construction and Material Specifications.

All water mains shall be pressure tested in accordance with section 801.14 of the City of Columbus Construction and Material Specifications, with the following exception: 150 psi of pressure shall be maintained for at least two hours in any tested section. The City may not approve any test lasting less than two hours regardless of the amount of leakage.

No service connection permits shall be issued or connections made to any service taps until water mains have been disinfected by the City of Columbus, Division of Water.

"Survey Coordinates" shall include all material, equipment, and labor necessary to obtain horizontal and vertical (northing, easting, and elevation) survey coordinates for the water main improvements. The survey coordinates shall be obtained for the completed water main construction and shall include all valves, tees, crosses, bends, deflections, plugs, reducers, tapping sleeves, blow offs, chlorination taps, fire hydrants, air releases, curb stops, casing pipe termini, and other fittings. Additional survey coordinates are required on the water main every 500' where no fitting or other water main structure is being installed within that length of the improvement.

All survey coordinates shall be referenced to the applicable County Engineer's Monuments, and shall be based on the North American Datum of 1983 (NAD 83) with the (NSRS2007) adjustment, with further reference made to the Ohio State Plane South Coordinate System, South Zone, with elevations based on NAVD 88 datum. All coordinates (Northing, Easting, Elevation) shall be referenced to the nearest hundredth (N xxxxxx.xx, E xxxxxx.xx, Elev. xxx.xx). All survey coordinates shall be accurate to within 1.0 foot horizontal and a tenth of a foot (0.10) or less vertical.

The coordinates shall be documented to the Municipality Engineer or designated Representative in digital spreadsheet form and shall include the applicable item, station, northing, easting, and elevation. Coordinates shall be submitted to the Municipality Engineer or designated Representative on a bi-weekly basis. Coordinates shall also be required to be submitted to the Division of Water as part of the request for chlorination.

Lump sum payment is full compensation for all work involved in obtaining and documenting the survey coordinates as described in the specification.

The proposed water main shall be located a minimum distance of twenty (20) feet away from any structure, overhang or footer.

The Contractor shall coordinate his work such that no water customer will have their service disrupted more than two (2) times throughout the duration of this project.

All brass fittings associated with water work, including repairs to the existing system, shall conform to the revised allowable lead extraction limit per the updated NSF/ANSI 61 Standard. The Division of Water's Approved Materials List has been updated to reflect the requirement.

The Contractor shall obtain the proper hydrant permit(s), and pay any applicable fees, for any approved hydrant usage deemed necessary for work under this improvement. Permits may be obtained through the Division of Water Permit Office (645-7330). The Contractor shall adhere to all rules & regulations governing said permit and must have original permit on site anytime in which the hydrant is in use. Cost to be included in the various bid items.

Where indicated on the plans, the existing water main shall be abandoned; and any existing water services shut off this main shall be transferred to the new water main. Prior to abandonment of the existing water main the proposed water main shall be pigged (if required), tested, chlorinated and put in service and then the existing water services shall be transferred. The Contractor shall maintain water services to all properties during construction of the new water main and shall notify all customers affected by the transfer of services. To ensure that all existing services are transferred to the new main, no water main shall be abandoned until the new water main has been put in service; all affected water services have been transferred; and the existing water main to be abandoned has been shut down for 24 hours. All visible valve boxes, fire hydrants, and service boxes on the water main to be abandoned, which will no longer be in service, shall be removed. All water mains to be abandoned shall be made water tight. The required surface restoration shall be paid for under the appropriate bid item(s).

Maintain eighteen (18) inches vertical and ten (10) feet horizontal separation between any sanitary or storm sewer piping and structures and all proposed water mains. For instances where ten (10) feet of horizontal separation cannot be maintained from a sewer structure, the water line shall be installed such that the structure is centered between the pipe joints on a full length (18 foot minimum) piece of water pipe.

MAIL DELIVERY

The Contractor shall be responsible to ensure that US Mail delivery within the project limits is not disrupted by construction operations. This responsibility is limited to relocation of mailboxes to a temporary location that will allow the completion of the work and shall also include the restoration of mailboxes to their original location or approved new location. Any relocation of mailbox services must be first coordinated with the US Postal Service and the homeowner.

Before relocating any mailboxes, the Contractor shall contact the U.S. Postal Service and relocate mailboxes according to the requirements of the Postal Service.

USE OF FIRE HYDRANTS

The Contractor shall make proper arrangements with the Dublin Service Department and the Columbus Division of Water for the use of fire hydrants when used for work performed under this contract and provide the city of Dublin a copy of the Hydrant Usage Permit obtained from the City of Columbus. The Contractor shall also send a copies of permits obtained from Dublin and Columbus to the Washington and/or Perry Township Fire Department. Permits shall be kept at the construction site at all times.

Before the final estimate is paid, the Contractor shall submit a letter from the City of Columbus Division of Water to the City Engineer stating that the Contractor has returned the Slamese Valve to the City of Columbus and has paid all costs arising from the use of the fire hydrants.

PROJECT NOTES

EXPOSE EXISTING UTILITY:
Where potential grade and alignment conflicts might occur with existing utilities, or as specifically called out on the plans, the Contractor shall expose utilities or structures sufficiently in advance of laying pipe for the Design Engineer to verify the vertical and horizontal effect on the proposed construction. Any discrepancy with the plans shall be coordinated with the City to ensure that there are no construction or conflict issues associated with said discrepancy. The cost of this work shall be included in the unit price bid for the various improvement items if a specific bid item is not provided in the estimate of quantities.

SITE VISIT:
The Contractor shall perform field reconnaissance to become acquainted with the existing site conditions and the potential effects upon the scope of work.

RIGHTS-OF-WAY:
In addition to the direct requirements of the contract specifications, the Contractor shall observe and conform to the specific requirements of all Rights-of-Way, including easements, court entries, rights-of-entry, or action filed in court in accordance with the code of the applicable governing agency. The cost of the operations necessary to fulfill such requirements shall be included in the price bid for the various items of the contract unless specific provision is made in the contract specifications for such cost under specific items of the contract.

WORK LIMITS:
The Contractor is responsible for containing all performed work and all equipment, materials, vehicles, etc., used to complete the work within the rights-of-way of the streets, roadways, permanent easements and the property boundaries of the project improvements, as shown on these plans.

The Contractor is responsible for cost of restoration for any area outside of the right-of-way, permanent easement or project property boundaries to former condition or better and to the satisfaction of the Property Owner and the City.

MAINTAIN DRAINAGE:
The flow in all sewers, drains and watercourses encountered shall be maintained by the Contractor at his own expense, and whenever such watercourses and drains are disturbed or destroyed during the prosecution of the work, they shall be restored by the Contractor at his own cost and expense, unless specific provision is made within the Contract Documents for the measure of and payment for such cost specific items, to a condition satisfactory to the City.

SOIL STOCKPILES:
The Contractor shall be responsible for keeping all soil stockpiles, including trench excavation stockpiles, protected from erosion. The areas surrounding the stockpiles are to be protected from sediment with the use of perimeter control devices such as earth or straw bale devices or silt fences. These perimeter control devices shall be maintained for the duration of the project.

DISPOSAL OF EXCESS EXCAVATION:
The Contractor shall dispose of all excess excavation at such location on the project site as approved by the Engineer. For disposal outside the limits of the project the Contractor shall provide a copy of the signed, written agreement between the Contractor and the offsite Landowner before such disposal occurs. This written agreement shall clearly state the purpose of the agreement and indicate the Landowner's permission for such use. Excess excavation material shall not be disposed of within any floodplain area, unless any and all necessary approvals to do so have been obtained.

GRADE CHANGES:
If it is determined that the elevation of the existing waterline, or existing appurtenance to be connected to, differs from the plan elevation or results in a change in the plan waterline slope, the Design Engineer shall be notified before starting construction of any portion of the proposed waterline which will be affected by the variance in the existing elevations.

Grades and elevations shown on the plans shall not be revised under any circumstances without first obtaining written approval from the City.

EXISTING VALVES:
All existing valves shall be operated by City of Columbus, Division of Water personnel only, as stated in Chapter 1113 of the Columbus City Code.

HAND SWABBING:
The Contractor shall hand swab all pipes and fittings that are not otherwise disinfected. The amount of chlorine to be used during hand swabbing operations will be determined by the City of Dublin.

WORK HOURS:
Allowable working hours for this project shall be 8:00AM – 5:00PM, Monday-Friday.

ITEM 805 - ¾" WATER SERVICE TAP, TRANSFERRED, BORED, AS PER PLAN
ITEM 805 - ¾" WATER SERVICE TAP, TRANSFERRED
These items have been provided to provide for the installation of new water services from the corporation stop at the new waterline, through a new curb stop and then reconnecting to the existing water service line behind the existing curb stop. All work shall be completed in accordance with CMSC Section 805. All new water services shown crossing pavement but not shown with pavement replacement shall be installed via directional drilling operations and will be paid for under Item 805 – ¾" Water Service Tap, Transferred, Bored as per plan. All other service may be directionally drilled or open-cut (at the option of the Contractor) but will be paid for under Item 805 – ¾" Water Service Tap, Transferred.

ITEM 259 - PERMANENT PAVEMENT REPLACEMENT, TYPE I
This item shall be utilized to repair the roadway pavement removed to facilitate installation of the new waterline. This work shall be completed in accordance with CMSC Item 259 and COC Standard Drawing Number 2160 except that the pavement composition shall be comprised of:

6" Item 301 Asphalt Concrete Base
1 -3/4" Item 448 Asphalt Concrete Intermediate Course, Type II PG 64-22

The final 1 ½" of asphalt surface course shall be installed in conjunction with the entire street mill and overlay and shall be paid for under Item 448.

ITEM SPEC - MAILBOX REMOVED AND RE-ERECTED

This work shall consist of carefully removing the existing mailbox and associated support to facilitate installation of the waterline. The box and support shall then be re-erected in the same location.

In the event any part of the existing mail box structure (box and support) is damaged during removal, storage or installation, the Contractor shall be responsible to replace that component with an equivalent product. Equivalency determination rests solely with the City of Dublin.

Payment under this item shall be limited to final permanent installations. Temporary installations, if necessary shall be in accordance with 107.12. However, the same material and size limitations as for permanent installations shall apply.

ITEM 659 - SEEDING AND MULCHING, AS PER PLAN

Seed – Certification of grass seed shall be provided by seed vendor for each grass-seed mixture stating the botanical and common name, percentage by weight of each species and variety; and percentage of purity, germination, and weed seed. Include the year of production and date of packaging. Furnish national turfgrass evaluation program (NTEP) data for each species to be used.

Grass seed must be fresh, clean, dry, new-crop seed complying with the A.O.S.A. "Journal of Seed Technology" rules for testing seeds for purity and germination tolerances.

Seed species shall be as follows, with not less than 90 percent germination, not less than 90 percent pure seed, and not more than 0.5 percent weed seed.

Turfgrass seed mix proportioned by weight:

A. 80 percent tall fescue (Festuca Arundinacea), with a minimum of 3 improved turf-type varieties. Kentucky-31 and alta varieties are not approved.
B. 20 percent perennial ryegrass (lolium perenne).

Seeding – Sow seed at a total rate of 7-9 lb. / 1,000 sf with a spreader or seeding machine. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray. Thoroughly cover with straw and netting. Netting shall be adequately pinned to prevent the straw from being blown or washed away.

Protect seeded areas with slopes exceeding 3:1 with erosion control blankets as directed by the Engineer. Cost of erosion control blankets, material, and labor shall be paid for by the City.

Hydro-Seeding & Hydro-Mulching are not permitted.

Turf Maintenance – Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, and replanting to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. provide the same materials and installation as those used in the original installation. Water turf with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.

Mow turfgrass seed mix areas as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 1/3 of grass height. Mow areas to a height of 2 to 3 inches.

BID SET
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
May, 2014

REVISIONS

MARK	DATE	DESCRIPTION

City of Dublin

CITY OF DUBLIN, OHIO
WATERLINE REPLACEMENT
MUIRFIELD VILLAGE WATERLINE IMPROVEMENTS - PHASE 2 - 14-012-CIP
GENERAL NOTES

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, Ohio 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
May, 2014

SCALE
None

JOB NO.
2014-0167

SHEET
2/13

BENCH MARKS
(NAVD 1988)

BM#6		Chiseled "X" on the west rim of a storm manhole located in the grass at the northwest corner of the intersection of Moray Court and Kinross Court.
		Elev. = 943.79
BM#7		Chiseled "X" on the east rim of a sanitary manhole located at the west end of St. Fillians Court, near the common easterly property corner of residences 5964 and 5959.
		Elev. = 946.53
BM#10		Chiseled "X" on the north rim of a sanitary manhole located on the south side of Glenfinnan Court, near the common property line of residences 6007 and 6015.
		Elev. = 947.57
BM#12		Chiseled "X" on the south rim of a sanitary manhole located in the driveway of 5660 Glenbervie Court.
		Elev. = 923.13
BM#13		Chiseled "X" on the north rim of a sanitary manhole located in the grass median of the cul-de-sac of Glenalmond Court, near the extended common property line of residences 8506 and 8518.
		Elev. = 916.71
BM#16		Chiseled "X" on the south rim of a sanitary manhole located on the north side of Torwoodlee Court, being 10 feet east of driveway residence 8538.
		Elev. = 909.07

HORIZONTAL CONTROL
GLENFINNAN COURT

Control Point #1		xxxxxxx xxxxxxxx xxxxxxxxx
		Northing = 000000.00 Easting = 0000000.00 Elev. = 000.00
Control Point #2		xxxxxxx xxxxxxxx xxxxxxxxx
		Northing = 000000.00 Easting = 0000000.00 Elev. = 000.00

HORIZONTAL CONTROL
ST. FILLIANS COURT

Control Point #1		xxxxxxx xxxxxxxx xxxxxxxxx
		Northing = 000000.00 Easting = 0000000.00 Elev. = 000.00
Control Point #2		xxxxxxx xxxxxxxx xxxxxxxxx
		Northing = 000000.00 Easting = 0000000.00 Elev. = 000.00

HORIZONTAL CONTROL
MORAY COURT

Control Point #1		xxxxxxx xxxxxxxx xxxxxxxxx
		Northing = 000000.00 Easting = 0000000.00 Elev. = 000.00
Control Point #2		xxxxxxx xxxxxxxx xxxxxxxxx
		Northing = 000000.00 Easting = 0000000.00 Elev. = 000.00

HORIZONTAL CONTROL
GLENALMOND COURT

Control Point #1		xxxxxxx xxxxxxxx xxxxxxxxx
		Northing = 000000.00 Easting = 0000000.00 Elev. = 000.00
Control Point #2		xxxxxxx xxxxxxxx xxxxxxxxx
		Northing = 000000.00 Easting = 0000000.00 Elev. = 000.00

HORIZONTAL CONTROL
TORWOODLEE COURT

Control Point #1		xxxxxxx xxxxxxxx xxxxxxxxx
		Northing = 000000.00 Easting = 0000000.00 Elev. = 000.00
Control Point #2		xxxxxxx xxxxxxxx xxxxxxxxx
		Northing = 000000.00 Easting = 0000000.00 Elev. = 000.00

HORIZONTAL CONTROL
GLENBERVIE COURT

Control Point #1		xxxxxxx xxxxxxxx xxxxxxxxx
		Northing = 000000.00 Easting = 0000000.00 Elev. = 000.00
Control Point #2		xxxxxxx xxxxxxxx xxxxxxxxx
		Northing = 000000.00 Easting = 0000000.00 Elev. = 000.00

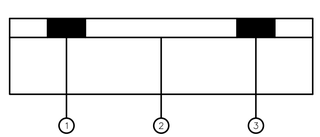
ESTIMATE OF QUANTITIES

Spec	Item No.	Description	Glenfinnan Court	St. Fillans Court West	Moray Court	Glenalmond Court	Torwoodlee Court	Glenbervie Court	Total Quantity	Units
		Waterline Replacement	Sheet 5/13	Sheet 6/13	Sheet 7/13	Sheet 8/13	Sheet 9/13	Sheet 10/13	**Total**	
CMSC	201	Clearing and Grubbing	1	1	1	1	1	1	6	L.S.
CMSC	207	Construction Seeding and Mulching	900	210	470	450	220	260	2510	S.Y.
CMSC	207	Perimeter Filter Fabric Fence	340	80	140	160	140	160	1020	L.F.
CMSC	207	Inlet Protection	4	2	6	1	1	0	14	Ea.
CMSC	259	Permanent Pavement Replacement, Type I	43	163	131	131	253	131	852	S.Y.
CMSC	259	Driveway Pavement Replacement, Type IIIA	26	0	57	0	0	44	127	S.Y.
CMSC	259	Driveway Pavement Replacement, Type IIIB	0	56	0	37	0	0	93	S.Y.
CMSC	614	Maintaining Traffic, As Per Plan	1	1	1	1	1	1	6	L.S.
CMSC	623	Construction Layout Stakes	1	1	1	1	1	1	6	L.S.
CMSC	653	Topsoil Furnished and Placed	75	20	45	40	20	25	225	C.Y.
CMSC	659/SPEC	Seeding and Mulching, As Per Plan	900	210	470	450	220	260	2510	S.Y.
CMSC	801	12" Water Pipe and Fittings with Backfill As Per Plan	10	0	0	0	0	0	10	L.F.
CMSC	801	6" Water Pipe and Fittings with Backfill As Per Plan	385	315	330	280	360	225	1895	L.F.
CMSC	801*	Concrete Blocking Class C, Increase or Decrease	5	5	5	5	5	5	30	C.Y.
CMSC	801*	Ductile Iron Fittings, Increase or Decrease	250	250	250	250	250	250	1500	LBS.
CMSC	802	6" Valve and Appurtenances	2	2	2	1	1	1	9	Ea.
CMSC	805	3/4" Water Service Tap Transferred, Bored (Directional Drilling)	5	9	9	6	5	5	39	Ea.
CMSC	805	3/4" Water Service Tap Transferred	0	1	1	1	1	1	5	Ea.
CMSC	809	Fire Hydrant, Type A	0	2	2	1	1	1	7	Ea.
CMSC	816	3-Inch Water Main Abandoned	2	1	1	1	1	1	7	Ea.
CMSC	SPEC	Survey Coordinates	1	1	1	1	1	1	6	L.S.
		Asphalt Mill and Overlay								
CMSC	254	Pavement Planing (1=1 .5")	0	1,135	1,125	1,100	1,060	860	5,280	S.Y.
CMSC	407	Tack Coat (0.15 Gal/SY)	0	175	170	165	160	130	800	Gal.
CMSC	448	Asphalt Concrete Surface Course (Medium Traffic), PG64-22, 1.5"	0	50	45	45	45	35	220	C.Y.

* = Denotes Contingency
CMSC = City of Columbus CMS (CMSC) or Standard Drawing
SPEC = Plan Detail/Note or Specification

BID SET
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
May, 2014



MILL & OVERLAY SECTION
Not to Scale

1. Item 254 – Pavement Planing 1 1/2"
2. Item 407 – Tack Coat (0.15 Gal/SY)
3. Item 448 – Asphalt Concrete Surface Course (Medium Traffic) PG 64-22 – 1 1/2"

LEGEND - EXISTING

__ __Ex WM__ __	Existing Water Main
__ __Ex Stm__ __	Existing Storm Sewer
__ __Ex San__ __	Existing Sanitary Sewer
__ __Ex FM__ __	Existing Force Main
__ __Ex Gas__ __	Existing Gas Line
__ __Ex Elec__ __	Existing Electric
__ __Ex Tele__ __	Existing Telephone/Communications
__ __Ex Fiber__ __	Existing Fiber Optic
__ __Ex CATV__ __	Existing Cable Television
———X———	Existing Fence
	Tree Row
	Guardrail
	Existing Fire Hydrant
	Existing Water Valve
	Existing Storm Sewer Manhole
	Existing Storm Sewer Catch Basin
	Existing Sanitary Manhole
	Existing Gas Valve
	Existing Telephone Pedestal Box
	Existing Telephone Pull Box
	Existing Telephone Manhole
	Existing Fiber Optic Pull Box
	Existing Telephone Pole
	Existing Transformer
	Existing Power Pole
	Existing Landscaping/Flood Light
	Existing Traffic Signal Pole

LEGEND - PROPOSED

————	Proposed Water Main
	Proposed Fire Hydrant
	Proposed Water Valve
————	Proposed Storm Sewer (By Others)
●	Proposed Storm Manhole (By Others)
■	Proposed Storm Catch Basin (By Others)

LEGEND - ABBREVIATIONS

(TBR)	To Be Removed
(TBRLT)	To Be Relocated
(TBRR)	To Be Removed and Replaced
(R&R)	Remove and Re-Erect
(DND)	Do Not Disturb
(TBA)	To Be Abandoned

REVISIONS

MARK	DATE	DESCRIPTION

City of Dublin

CITY OF DUBLIN, OHIO
WATERLINE REPLACEMENT
MUIRFIELD VILLAGE WATERLINE IMPROVEMENTS - PHASE 2 - 14-012-CIP
HORIZ. & VERT. CONTROL, ESTIMATE OF QUANTITIES, LEGEND

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
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DATE
May, 2014

SCALE
None

JOB NO.
2014-0167

SHEET
3/13

GLENFINNAN COURT WATER COORDINATE TABLE

PROPOSED				AS-BUILT		
REF	ITEM	STATION	OFFSET	NORTHING	EASTING	ELEVATION
1	12" x 6" Anchoring Tee	0+00.00	0.00'			
2	6" Valve w/Col Std HD Valve Box	0+00.00	0.00'			
3	6" 22-1/2 Degree Bend	0+25.73	0.00'			
4	Grade Break, Horizontal Deflection Rt., Begin 313.50' Radius	0+52.92	0.00'			
5	3/4" Water Service (6000 Glenfinnan Ct.)	1+22.25	34.50' Lt.			
6	Grade Break	1+19.33	0.00'			
7	3/4" Water Service (5988 Glenfinnan Ct.)	2+18.08	34.50' Lt.			
8	Grade Break, Horizontal Deflection Rt., End 313.50' Radius	2+59.08	0.00'			
9	6" 22-1/2 Degree Bend	2+91.95	0.00'			
10	3/4" Water Service (5976 Glenfinnan Ct.)	2+91.95	37.67' Lt.			
11	Grade Break	3+12.00	0.00'			
12	6" 45 Degree Bend	3+17.63	0.00'			
13	3/4" Water Service (5964 Glenfinnan Ct.)	3+17.63	34.84' Lt.			
14	Grade Break	3+31.00	0.00'			
15	3/4" Water Service (5952 Glenfinnan Ct.)	3+48.82	25.40' Lt.			
16	6" 11-1/4 Degree Bend	3+71.00	0.00'			
17	6" Valve w/Col Std HD Valve Box	3+83.50	0.00'			
18	12"x 6" Anchoring Tee	3+83.50	0.00'			
19	Remove 12" x 4" Tee - Install 12" Sleeve					
20	Remove 12" x 4" Tee - Install 12" Sleeve					

ST. FILLANS COURT WEST WATER COORDINATE TABLE

PROPOSED				AS-BUILT		
REF	ITEM	STATION	OFFSET	NORTHING	EASTING	ELEVATION
21	6" 45 Degree Bend	0+00.00	0.00'			
22	3/4" Water Service (5920 St. Fillans Court West)	0+02.50	5.49' Rt.			
23	6" x 6" Anchoring Tee (Fire Hydrant)	0+08.94	0.00'			
24	6" Valve (Fire Hydrant)	0+08.94	Rt.			
25	Fire Hydrant	0+08.94	Rt.			
26	6" 45 Degree Bend	0+37.37	0.00'			
27	3/4" Water Service (5919 St. Fillans Court West)	0+37.37	18.34' Lt.			
28	3/4" Water Service (5927 St. Fillans Court West)	0+87.04	62.52' Lt.			
29	3/4" Water Service (5928 St. Fillans Court West)	1+27.09	26.95' Rt.			
30	3/4" Water Service (5936 St. Fillans Court West)	1+77.05	25.95' Rt.			
31	6" 45 Degree Bend	2+12.10	0.00'			
32	6" 11-1/4 Degree Bend	2+12.10	0.00'			
33	3/4" Water Service (5952 St. Fillans Court West)	2+12.10	38.55' Rt.			
34	6" 45 Degree Bend	2+37.04	0.00'			
35	3/4" Water Service (5964 St. Fillans Court West)	2+37.04	26.68' Rt.			
36	3/4" Water Service (5959 St. Fillans Court West)	2+57.44	27.39' Rt.			
37	6" 45 Degree Bend	2+65.16	0.00'			
38	3/4" Water Service (5947 St. Fillans Court West)	2+73.78	39.89' Rt.			
39	6" 45 Degree Bend	2+79.47	0.00'			
40	3/4" Water Service (5935 St. Fillans Court West)	2+92.52	28.15' Rt.			
41	6" 90 Degree Bend	2+99.26	0.00'			
42	6" Valve	3+02.03	0.00'			
43	Fire Hydrant	3+09.01	0.00'			

GLENALMOND COURT

PROPOSED				AS-BUILT		
REF	ITEM	STATION	OFFSET	NORTHING	EASTING	ELEVATION
68	6" 11-1/4 Degree Bend	0+00.00	0.00'			
69	3/4" Water Service (8525 Glenalmond Court)	0+51.25	48.86' Rt.			
70	6" 22-1/2 Degree Bend, Begin 795.00' Radius	0+87.26	0.00'			
71	3/4" Water Service (8518 Glenalmond Court)	1+03.06	27.88' Lt.			
72	3/4" Water Service (8513 Glenalmond Court)	1+17.63	75.97' Rt.			
73	3/4" Water Service (8506 Glenalmond Court)	1+68.88	27.88' Lt.			
74	3/4" Water Service (8501 Glenalmond Court)	1+87.10	88.39' Rt.			
75	Horizontal Deflection, End 795.00' Radius	1+87.26	0.00'			
76	6" 45 Degree Bend	1+97.18	0.00'			
77	6" 45 Degree Bend, Grade Break, Rotate to Grade	2+15.68	0.00'			
78	3/4" Water Service (8494 Glenalmond Court)	2+15.68	24.58' Lt.			
79	6" x 6" Anchoring Tee (Fire Hydrant)	2+34.81	0.00'			
80	6" Valve (Fire Hydrant)	2+34.81	Rt.			
81	Fire Hydrant	2+34.81	Rt.			
82	3/4" Water Service (8489 Glenalmond Court)	2+59.16	26.20' Lt.			
83	6" Plug and Thurst Block	2+66.41	0.00'			

MORAY COURT

PROPOSED				AS-BUILT		
REF	ITEM	STATION	OFFSET	NORTHING	EASTING	ELEVATION
44	6" 45 Degree Bend	0+00.00	0.00'			
45	3/4" Water Service (5839 Moray Court)	0+10.42	16.72' Rt.			
46	6" 45 Degree Bend	0+17.90	0.00'			
47	6" x 6" Anchoring Tee (Fire Hydrant)	0+22.90	0.00'			
48	6" Valve (Fire Hydrant)	0+22.90	Lt.			
49	Fire Hydrant	0+22.90	Lt.			
50	6" 45 Degree Bend	0+82.94	0.00'			
51	6" 45 Degree Bend	1+08.99	0.00'			
52	3/4" Water Service (5850 Moray Court)	1+14.54	82.62' Rt.			
53	3/4" Water Service (5847 Moray Court)	1+17.91	30.77' Lt.			
54	3/4" Water Service (5858 Moray Court)	1+88.24	83.71' Rt.			
55	3/4" Water Service (5855 Moray Court)	1+96.15	29.93' Lt.			
56	3/4" Water Service (5863 Moray Court)	3+03.52	85.71' Rt.			
57	6" 45 Degree Bend, Grade Break, Rotate to Grade	2+39.16	0.00'			
58	6" x 6" Anchoring Tee (Fire Hydrant)	2+45.78	0.00'			
59	6" Valve (Fire Hydrant)	2+45.78	Rt.			
60	Fire Hydrant	2+45.78	Rt.			
61	6" 45 Degree Bend	2+52.40	0.00'			
62	3/4" Water Service (5871 Moray Court)	2+52.40	25.58' Lt.			
63	3/4" Water Service (5874 Moray Court)	2+90.23	25.85' Lt.			
64	6" 45 Degree Bend	2+93.14	0.00'			
65	6" 45 Degree Bend	2+99.05	0.00'			
66	3/4" Water Service (5866 Moray Court)	3+05.25	28.15' Lt.			
67	6" Plug and Thurst Block	3+09.96	0.00'			

TORWOODLEE COURT

PROPOSED				AS-BUILT		
REF	ITEM	STATION	OFFSET	NORTHING	EASTING	ELEVATION
84	6" 45 Degree Bend	0+00.00	0.00'			
85	6" 45 Degree Bend, Begin 1803.00' Radius	0+17.03	0.00'			
86	3/4" Water Service (8507 Torwoodlee Court)	0+91.05	19.55' Rt.			
87	6" 45 Degree Bend, End 1803.00' Radius	1+57.93	0.00'			
88	3/4" Water Service (8495 Torwoodlee Court)	1+61.72	29.51' Rt.			
89	6" 45 Degree Bend, Grade Break, Rotate to Grade	1+94.67	0.00'			
90	3/4" Water Service (8483 Torwoodlee Court)	2+03.61	23.10' Rt.			
91	3/4" Water Service (8490 Torwoodlee Court)	2+56.11	26.80' Rt.			
92	6" 45 Degree Bend, Grade Break, Rotate to Grade	2+65.26	0.00'			
93	6" 45 Degree Bend	2+78.59	0.00'			
94	3/4" Water Service (8502 Torwoodlee Court)	2+78.59	29.03' Rt.			
95	6" x 6" Anchoring Tee (Fire Hydrant)	3+23.71	0.00'			
96	6" Valve (Fire Hydrant)	3+23.71	Lt.			
97	Fire Hydrant	3+23.71	Lt.			
98	3/4" Water Service (8514 Torwoodlee Court)	3+39.90	29.00' Rt.			
99	6" Plug and Thurst Block	3+48.25	0.00'			

GLENBERVIE COURT

PROPOSED				AS-BUILT		
REF	ITEM	STATION	OFFSET	NORTHING	EASTING	ELEVATION
100	6" 45 Degree Bend, Grade Break, Rotate to Grade	0+00.00	0.00'			
101	6" 45 Degree Bend, Grade Break, Rotate to Grade	0+07.78	0.00'			
102	Grade Break, Use 11-1/4 Degree Bend	0+26.45	0.00'			
103	3/4" Water Service (5667 Glenbervie Court)	0+24.79	15.75' Lt.			
104	6" 45 Degree Bend, Grade Break, Rotate to Grade	0+38.21	0.00'			
105	6" 45 Degree Bend, Grade Break, Rotate to Grade	0+58.01	0.00'			
106	3/4" Water Service (5660 Glenbervie Court)	0+58.99	59.43' Rt.			
107	3/4" Water Service (5678 Glenbervie Court)	1+26.00	71.71' Rt.			
108	3/4" Water Service (5681 Glenbervie Court)	1+35.45	24.72' Lt.			
109	6" 45 Degree Bend, Grade Break, Rotate to Grade	1+53.72	0.00'			
110	3/4" Water Service (5695 Glenbervie Court)	1+75.00	40.49' Lt.			
111	6" 45 Degree Bend	1+75.15	0.00'			
112	6" x 6" Anchoring Tee (Fire Hydrant)	1+85.57	0.00'			
113	6" Valve (Fire Hydrant)	1+85.57	Rt.			
114	Fire Hydrant	1+85.57	Rt.			
115	3/4" Water Service (5692 Glenbervie Court)	2+10.57	33.34' Lt.			
116	6" Plug and Thurst Block	2+15.57	0.00'			

BID SET

NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
May, 2014

REVISIONS

MARK	DATE	DESCRIPTION

City of Dublin

CITY OF DUBLIN, OHIO
WATERLINE REPLACEMENT
MUIRFIELD VILLAGE WATERLINE IMPROVEMENTS - PHASE 2 - 14-012-CIP
WATER COORDINATE TABLES

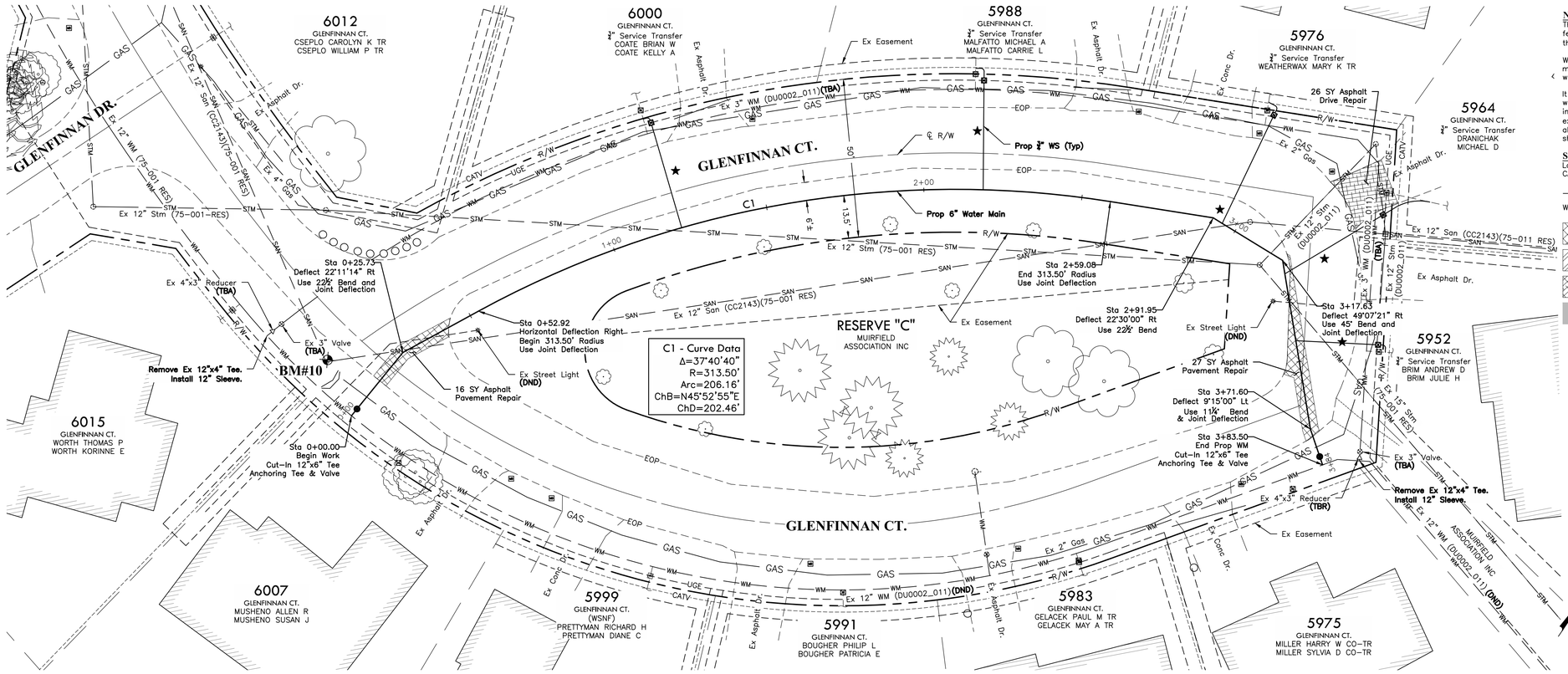
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
May, 2014

SCALE
None

JOB NO.
2014-0167

SHEET
4/13



NOTE:
The pay limits for seeding and mulching shall be restricted to a maximum of 10 feet on either side of the new waterline or the right-of-way (or easement) line if the right-of-way (easement) is less than 10 feet from the proposed waterline.

Water services as shown are based upon visual observation or other investigative measures. Contractor is responsible to verify existing curb box locations prior to waterline installation. The City shall be notified of significant discrepancies.

It is the intent of the improvement to minimize the impact of driveways associated with the service transfers. Drive repairs as shown represent the largest anticipated impact. If an opportunity can be identified (based upon field verification of the existing curb box and alignment of the service line beyond the curb box) that allows the service transfer to be completed without impacting the driveway the City shall be notified.

STREET LIGHT NOTE:
Location of power feed for existing street light unknown. Excavate in this area with CAUTION!

WSNF – Water Service not field located. Location Shown per tap card.

– Asphalt Pavement Repair (3"–448 on 6"–301 Per RD–1)

– Concrete Drive Repair (Per COC Std Dwg 2160)

– Asphalt Drive Repair (Per COC Std Dwg 2160)

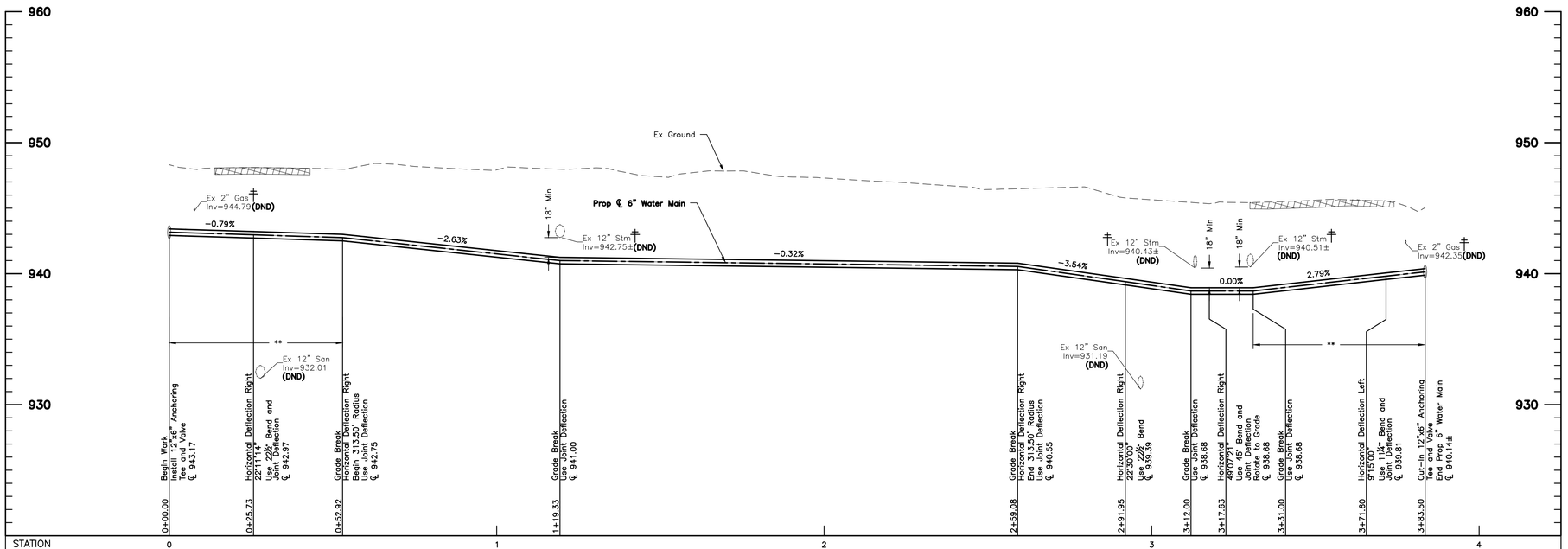
– 1 ½" Mill & Overlay

★ – Proposed Water Service to be Bored

** – Flowable Controlled Density Fill, Type II

† – Location and Elevation as shown are approximate and based on available information. Contractor to locate and expose prior to installing water main.

– Use caution. Property known to have irrigation system.



STATION	0	1	2	3	4
SURFACE	948.32	947.92	947.30	945.64	
℄ OF PIPE	943.17	941.51	940.74	939.10	
CUT	5.40	6.66	6.81	6.79	

BID SET
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
May, 2014

REVISIONS

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City of Dublin

CITY OF DUBLIN, OHIO
WATERLINE REPLACEMENT
MUIRFIELD VILLAGE WATERLINE IMPROVEMENTS - PHASE 2 - 14-012-CIP
GLENFINNAN CT. PLAN & PROFILE

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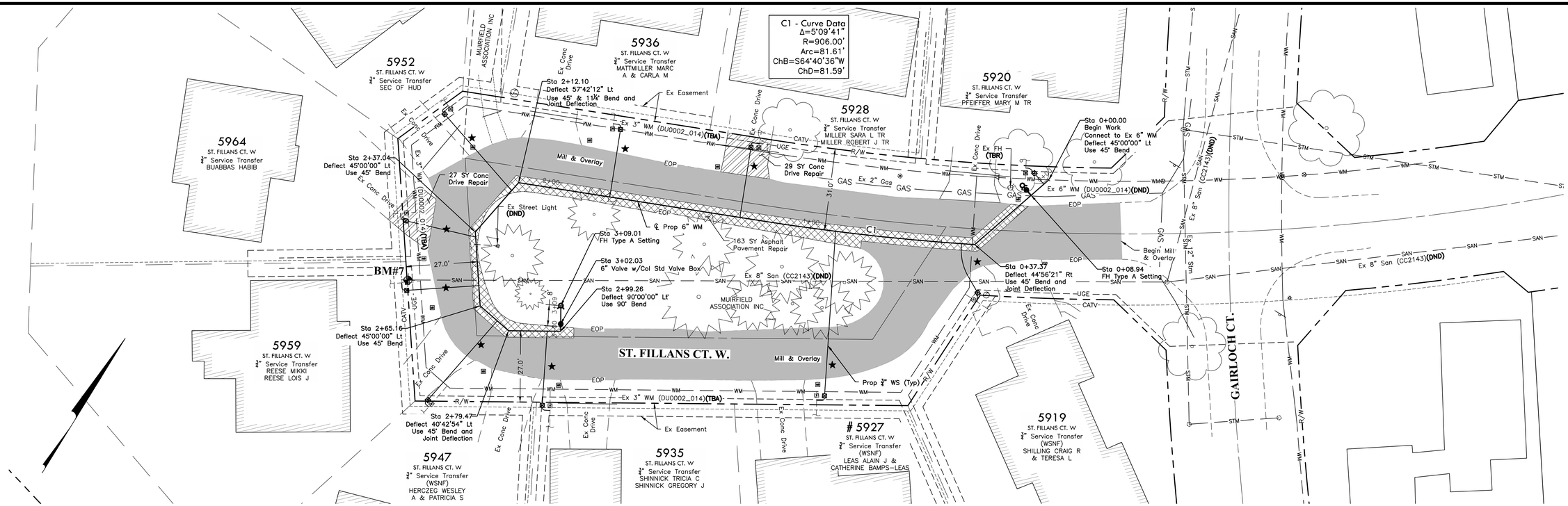
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, Ohio 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

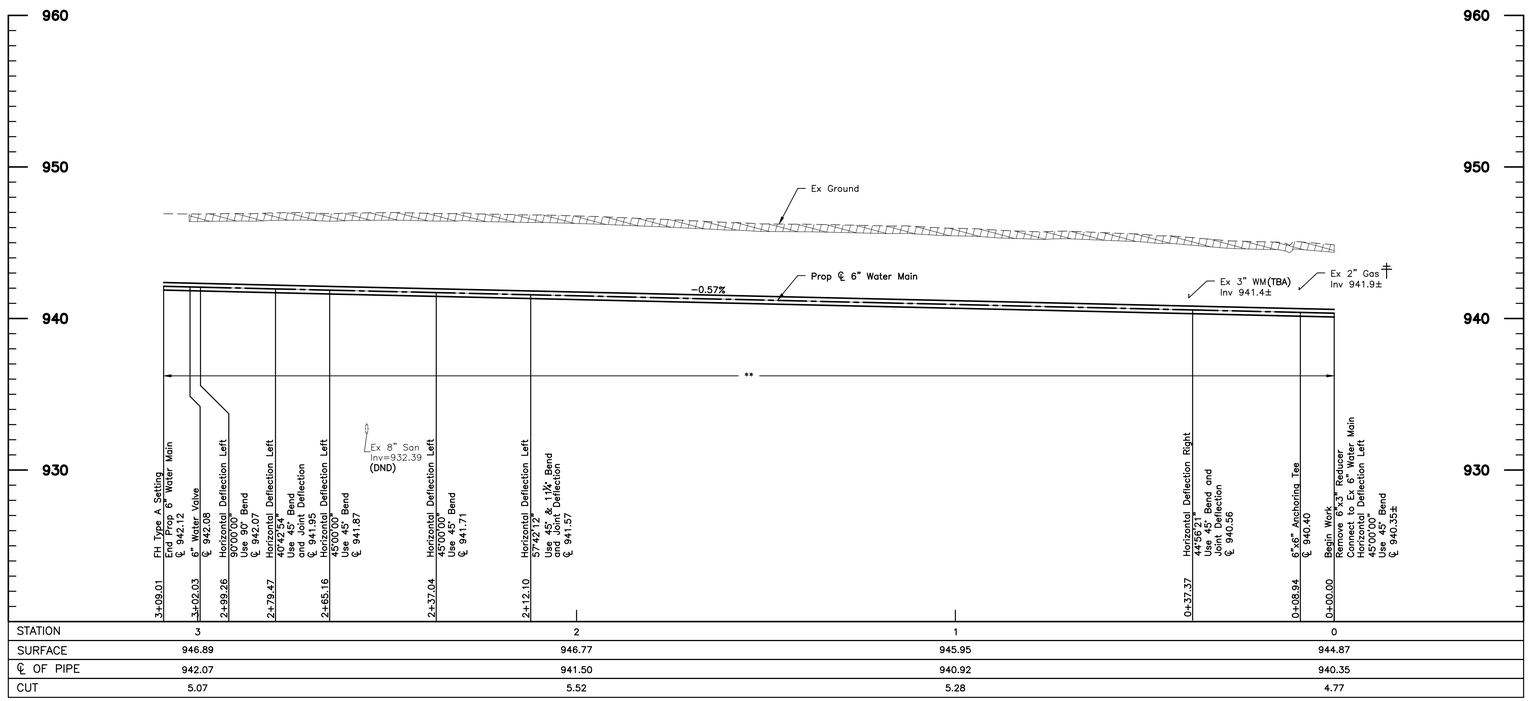
DATE
May, 2014

SCALE
Horiz: 1" = 20'
Vert: 1" = 5'

JOB NO.
2014-0167

SHEET
5/13





STATION	3	2	1	0
SURFACE	946.89	946.77	945.95	944.87
℄ OF PIPE	942.07	941.50	940.92	940.35
CUT	5.07	5.52	5.28	4.77

NOTE:
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– Concrete Drive Repair (Per COC Std Dwg 2160)

– Asphalt Drive Repair (Per COC Std Dwg 2160)

– 1 ½" Mill & Overlay

★ – Proposed Water Service to be Bored

** – Flowable Controlled Density Fill, Type II

┼ – Location and Elevation as shown are approximate and based on available information. Contractor to locate and expose prior to installing water main.

– Use caution. Property known to have irrigation system.

BID SET
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
May, 2014

REVISIONS

MARK	DATE	DESCRIPTION

City of Dublin

CITY OF DUBLIN, OHIO
WATERLINE REPLACEMENT

MUIRFIELD VILLAGE WATERLINE IMPROVEMENTS - PHASE 2 - 14-012-CIP

ST. FILLANS CT. W. PLAN & PROFILE

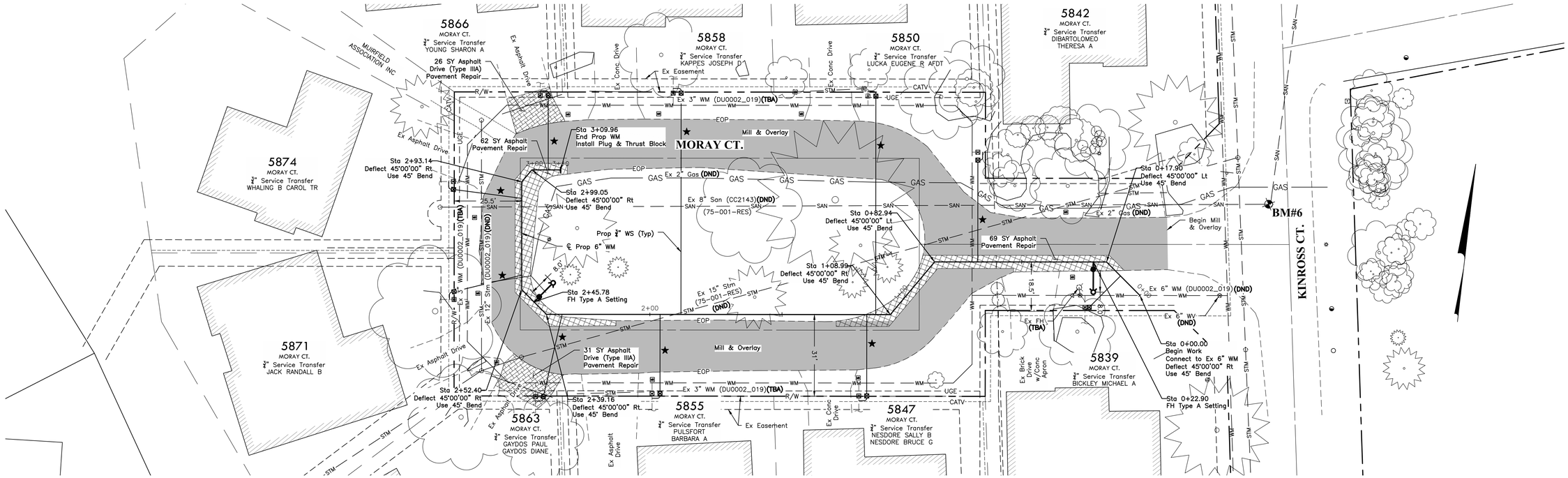
EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

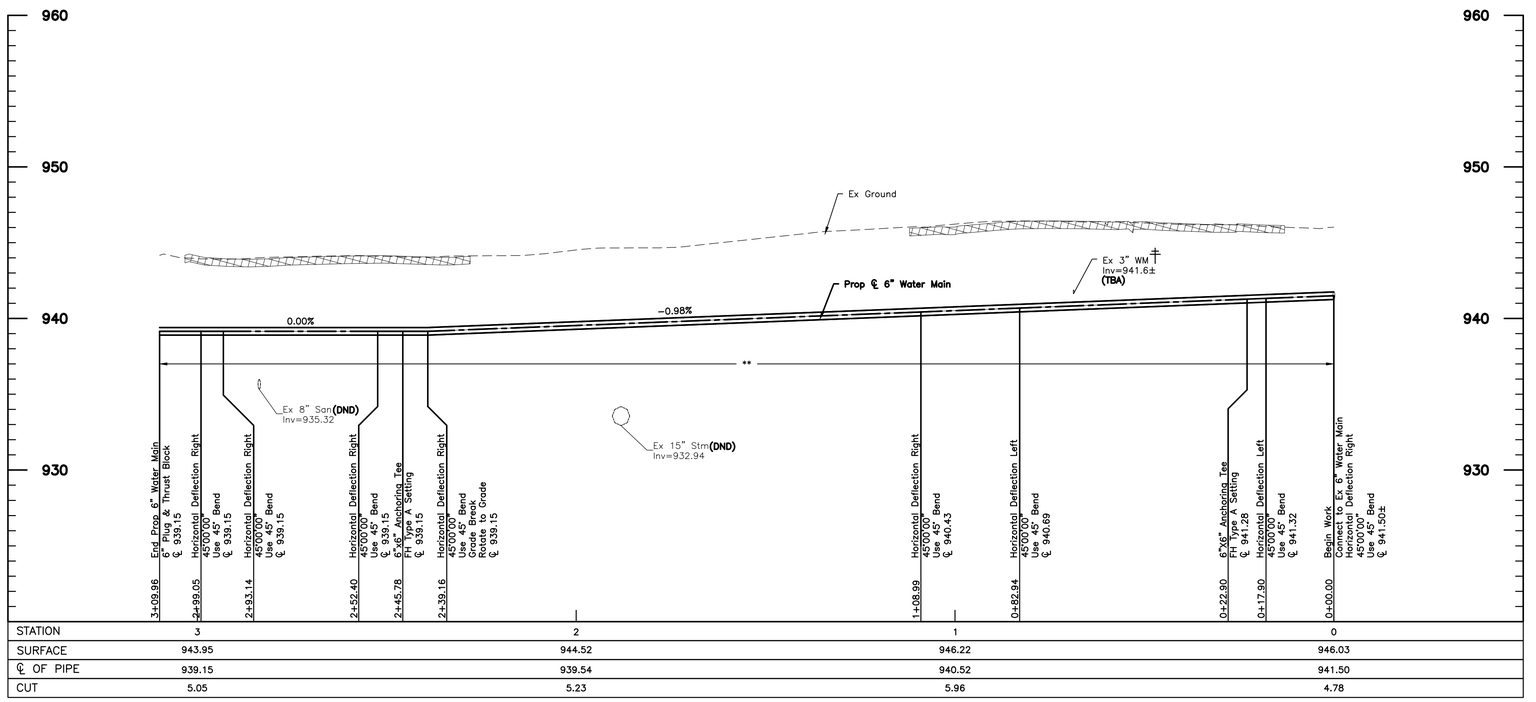
DATE
May, 2014

SCALE
Horiz: 1" = 20'
Vert: 1" = 5'

JOB NO.
2014-0167

SHEET
6/13





STATION	3	2	1	0
SURFACE	943.95	944.52	946.22	946.03
℄ OF PIPE	939.15	939.54	940.52	941.50
CUT	5.05	5.23	5.96	4.78

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City of Dublin

CITY OF DUBLIN, OHIO
WATERLINE REPLACEMENT
MUIRFIELD VILLAGE WATERLINE IMPROVEMENTS - PHASE 2 - 14-012-CIP
MORAY CT. PLAN & PROFILE

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
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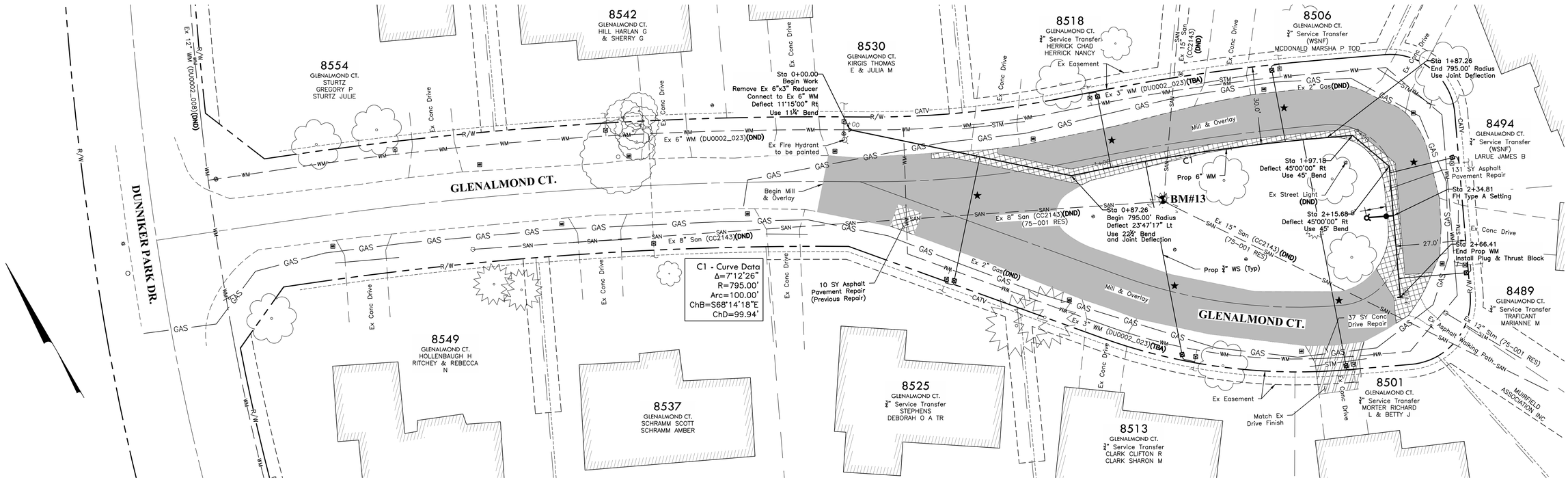
JOB NO.
2014-0167

SHEET
7/13



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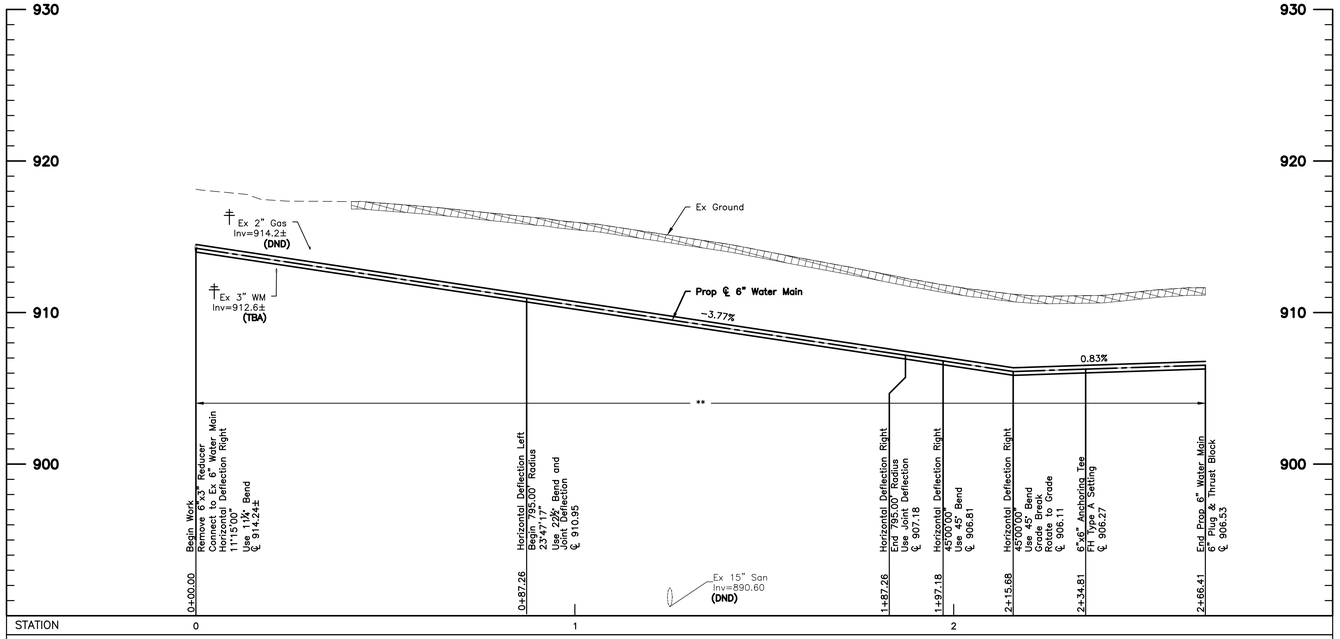

STATION	0	1	2
SURFACE	918.13	915.95	911.72
℄ OF PIPE	914.24	910.47	906.70
CUT	4.14	5.73	5.27

MARK	DATE	REVISIONS

City of Dublin

CITY OF DUBLIN, OHIO
WATERLINE REPLACEMENT
MUIRFIELD VILLAGE WATERLINE IMPROVEMENTS - PHASE 2 - 14-012-CIP
GLENALMOND CT. PLAN & PROFILE

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JOB NO.
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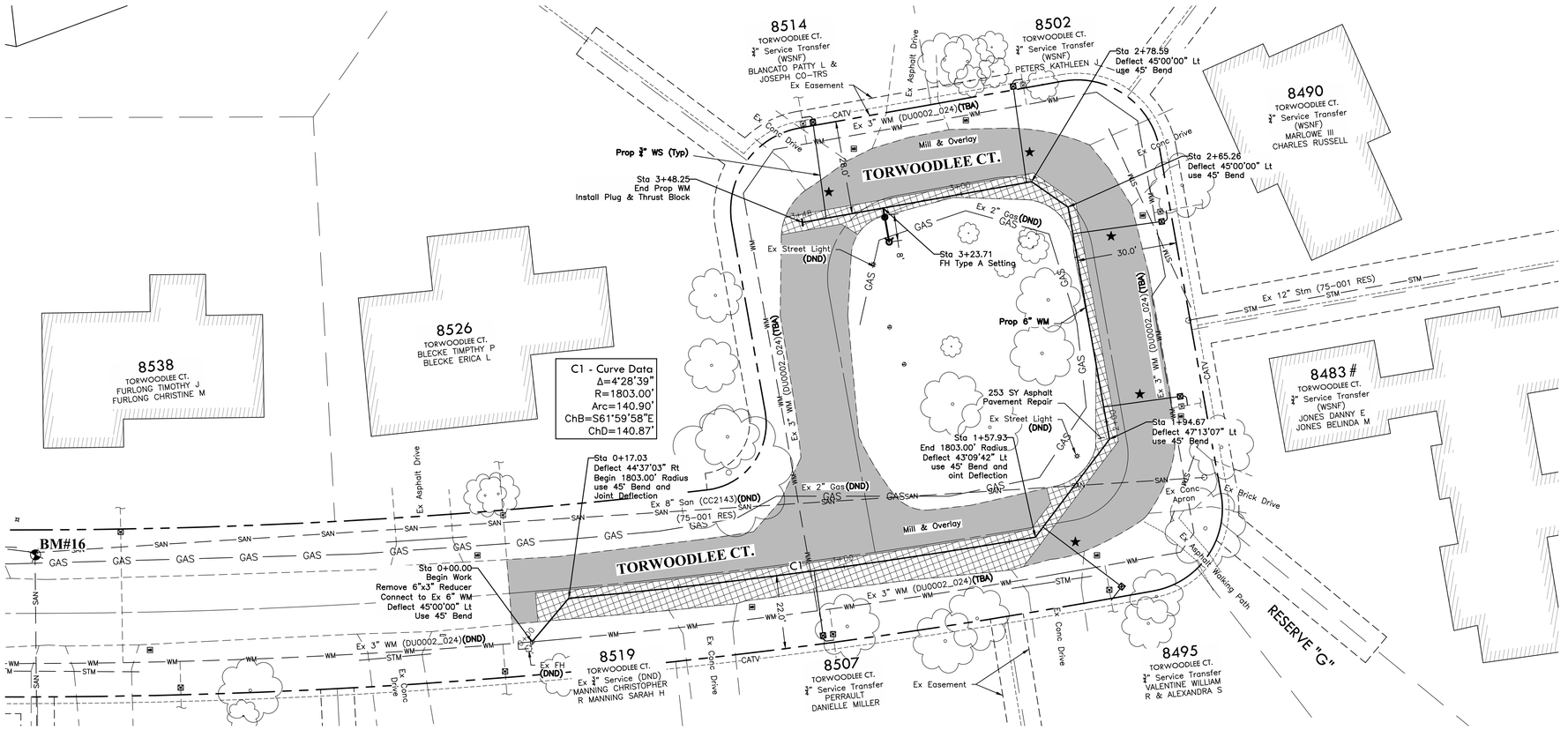
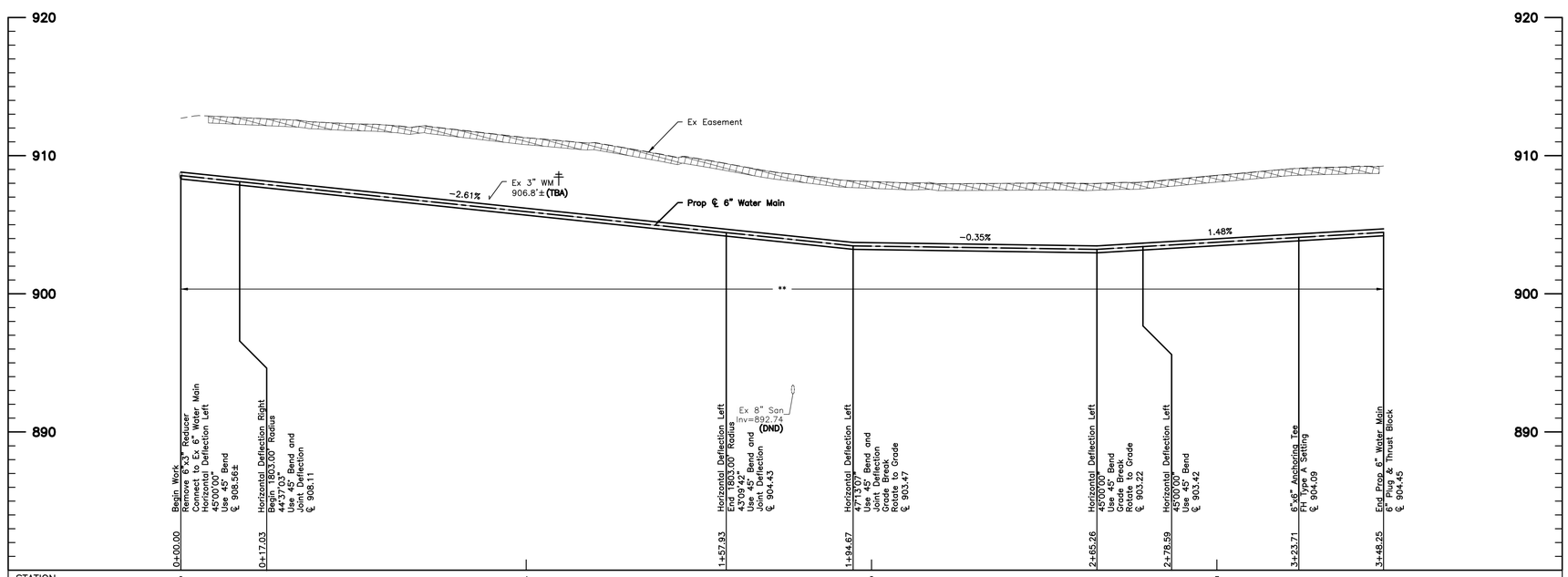
SHEET
8/13





STATION	0	1	2	3
SURFACE	912.71	911.31	908.12	908.56
℄ OF PIPE	908.56	905.95	903.45	903.73
CUT	4.40	5.61	4.92	5.07

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City of Dublin

CITY OF DUBLIN, OHIO
WATERLINE REPLACEMENT
MUIRFIELD VILLAGE WATERLINE IMPROVEMENTS - PHASE 2 - 14-012-CIP
TORWOODLEE CT. PLAN & PROFILE

EMH&T
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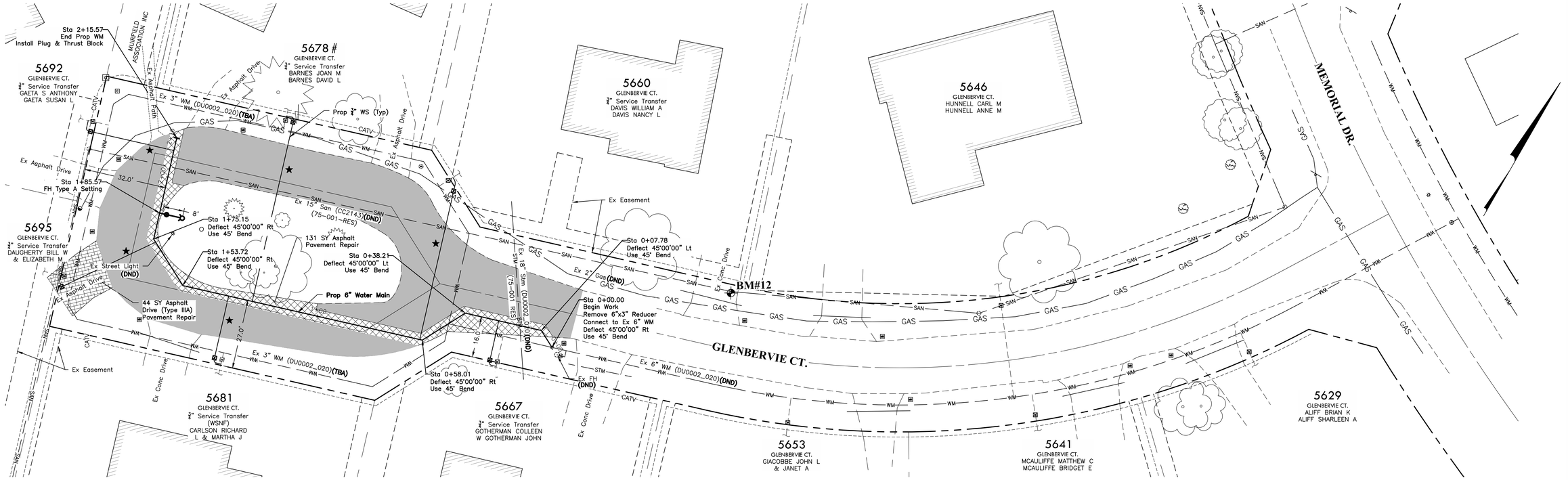
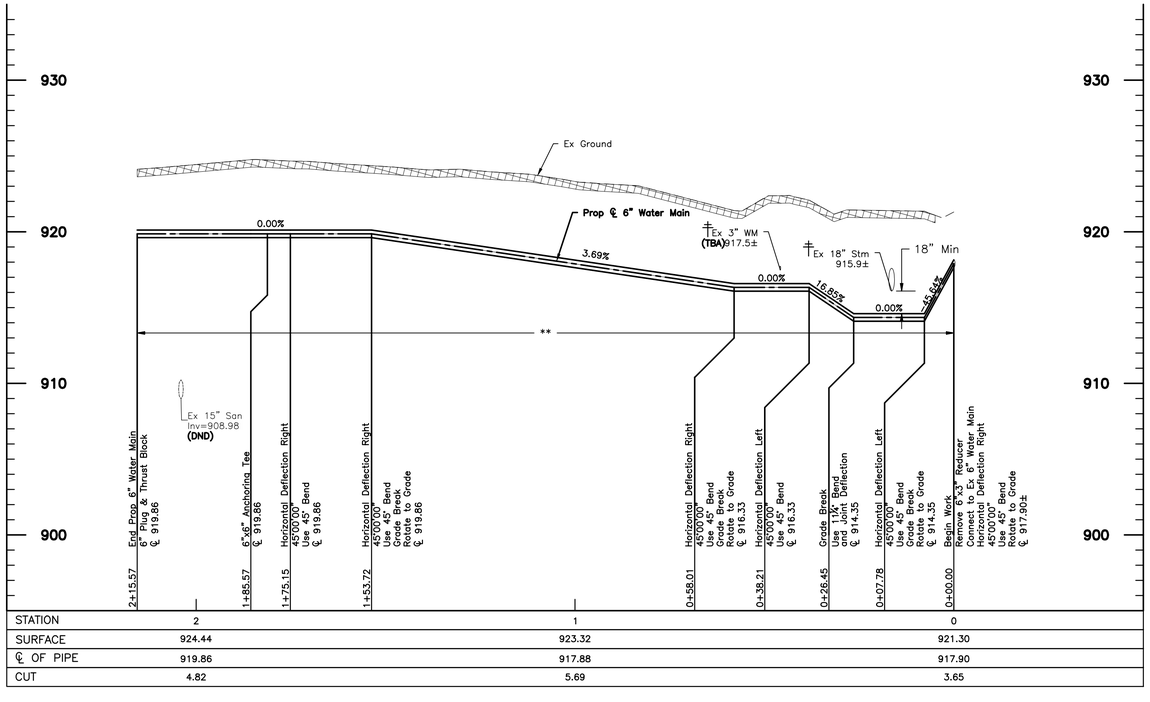
SHEET
9/13





STATION	2	1	0
SURFACE	924.44	923.32	921.30
℄ OF PIPE	919.86	917.88	917.90
CUT	4.82	5.69	3.65

NOTE:
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City of Dublin

CITY OF DUBLIN, OHIO
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GLENBERVIE CT. PLAN & PROFILE

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SHEET
10/13

ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN

The intent of the maintenance of traffic plan for the construction of the new waterlines along Glenfinnan Ct., St. Fillans Ct., Moray Ct., Glenalmond Ct., Torwoodlee Ct. and Glenbervie Ct. is to allow for closure of the roadways during active working hours. Barricades shall be placed at the entrance to each street prior to starting work operations each day and the barricades shall be removed from the roadway at the completion of work each day. At the end of each day all excavations shall be backfilled (within 6 inches of existing grade outside of the pavement and within 2 inches of existing grade within pavement areas) or securely plated. NO open excavations will be permitted over night or while work is not active. During active working hours, the Contractor shall made provisions to allow residents (vehicles and pedestrian) safe access to their properties. These provisions may include plating open excavations or placement of compacted stone to allow temporary access to driveways. The Contractor shall coordinate with the City to provide notice directly to each residence concerning times when access may be limited.

PAYMENT
Payment for all materials and labor related to maintaining traffic shall be incidental to item 614, maintaining traffic, as per plan, unless separately itemized within.

GENERAL
All traffic control devices shall be furnished, erected, maintained and removed by the Contractor in accordance with the "Ohio Manual Of Uniform Traffic Control Devices" (Current Edition), copies of which are available from the Ohio Department of Transportation, Office of Traffic Engineering, 1980 West Broad Street, Columbus, Ohio 43223.

The roadway shall not be opened to traffic until permanent traffic controls are in place, or until temporary traffic controls, approved by the Engineer, are installed. The Contractor assumes all liability for the premature removal of temporary traffic controls.

The Contractor shall be responsible for the reinstallation and/or replacement of all permanent traffic control devices damaged or removed during the construction. Permanent traffic control that is no longer in conflict with temporary traffic control shall be replaced immediately. The Contractor shall assume all liability for missing, damaged and improperly placed traffic control devices.

The contractor shall provide a 24 hour contact who will be responsible for maintenance of traffic for the duration of the project.

Construction operations shall not begin until all temporary traffic control devices are in place and approved by the Engineer and the City.

Maintenance of all traffic control devices including drums, signs, barricades, sign boards, detour signage, etc., shall be the Contractor's responsibility.

All trenches shall be backfilled or securely plated during all nighttime and non-working hours.

Drop off within the work zone shall conform to the requirements set forth on ODOT Standard Construction Drawing MT-101.90

The Contractor shall submit a closure schedule to the City of Dublin for approval prior to initiating any closure.

CONSTRUCTION INITIATION
The Contractor will notify the City of Dublin 14 days prior to the start of construction activities. the Contractor will immediately inform the City of Dublin of any and all delays and/or changes regarding the construction project. The City Engineer will provide clarification for any questions about the notification requirement.

TEMPORARY PAVEMENT MARKINGS
All materials and labor associated with the installation and removal of temporary pavement markings shall be included in the lump sum contract price for Item 614 Maintaining Traffic, As Per Plan.

ALTERNATE METHODS
The Contractor may submit alternative methods for the maintenance of traffic provided the intent of the above provisions is followed and no additional inconvenience to the traveling public results from the change. No alternative plan shall be placed in effect until approval has been received from the City of Dublin in writing.

LOCAL ACCESS
Ingress and egress shall be maintained to all residential and commercial properties. Driveway closure may be necessary to enable work on or in front of a drive. The Contractor will be responsible for notifying owners, residents, or business operators in writing at least 48 hours but not more than 72 hours prior to closure. The Engineer shall be given a list of the persons that were given notices with the date of notice included. Closure is permitted only during work hours and access must be returned at the end of each working day. Properties with multiple drives may have one drive closed at a time, while work is performed in the area of the closed drive.

Individual drive closures shall be kept to the minimum time needed for construction activities. Every effort must be made to accommodate the owner's need for access.

PEDESTRIAN ACCESS
The Contractor shall be responsible for the protection and safe movement of pedestrians through, around, and away from the construction site.

The safety of pedestrian traffic shall be considered at all times in the provision of traffic control devices required by these plans and notes. It shall be the Contractor's responsibility to provide lights, signs, barricades, and other warnings to physically separate the pedestrian from hazards incidental to the construction operations such as open excavations, etc. at all time, the pedestrian mot shall be subject to the approval of the Engineer.

NOISE CONTROL
Activities and land use adjacent to this project may be adversely affected by construction noise. In order to minimize such effects, any power-operated construction-type device shall not be operated between the hours of 9 pm and 6 am. In addition, no such device shall be operated at any time or in such a manner that the noise created substantially exceeds that customarily and necessarily attendant to the reasonable and efficient performance of such equipment.

COVERING SIGNS
The Contractor shall cover all existing signs that conflict with maintenance of traffic signs. Covering of signs shall be in accordance with 614.05. Costs for covering signs shall be included in item 614 – Maintaining Traffic, As per Plan.

CONFLICTING MARKINGS
The Contractor shall, prior to placing temporary markings, remove all existing conflicting markings visible to the traveling public during daylight or nighttime hours in accordance with 641.10. The cost for removal of conflicting markings shall be incidental to Item 614, Maintaining Traffic, As Per Plan.

EXISTING TRAFFIC SIGN MAINTENANCE
Special care shall be taken to maintain existing street name signs and stop signs. If necessary, the Contractor shall relocate these signs out of the way of construction, but in conformance with OMUTCD.

SIGNS, BARRICADES, AND VERTICAL PANELS
All construction signs, barricades, vertical panels, and drums shall conform to OMUTCD and the latest revision of the ODOT Construction and Material Specifications.

All construction signage shall be installed and covered before construction begins. After construction sign installation, the Contractor shall notify the Engineer three working days before work begins and request an inspection of all signage.

Faces of construction signs and reflective sheeting on barricades shall be type "H" (VIP). All orange construction signs shall be fluorescent orange. All sheeting will be tested for reflectivity per ODOT 730.192. vertical panels and drum bands shall be reflectorized with type "G" (high intensity) sheeting complying with the requirements of 730.19. All signs and barricades, vertical panels, and drums will be like new and in good condition in conformance with "Quality Standards for Work Zone Traffic Control Devices" published by ATSSA.

Maintenance of all Contractor supplied signs, barricades, vertical panels, and drums is the Contractor's responsibility. If the Contractor fails to correct deficiencies within four hours of notification, the City will correct or hire someone to correct the deficiencies. The Contractor will then be back charged per ODOT specification 614.04. In the case that back charging the Contractor is not applicable, the City will rescind and withhold all permits issued to the Contractor to work within City right-of-way until the issue is settled.

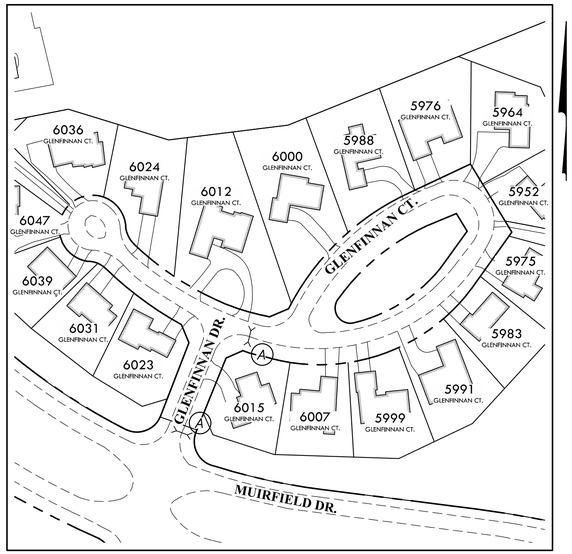
These provisions shall not in any way relieve the Contractor of any of his legal responsibilities or liabilities for the safety of the public.

All barricades at closures shall have yellow type "C" steady burn lights. all barrels in tapers shall have yellow type "C" steady burn lights.

All advance signing shall be equipped with type "A" flashing lights and (2) orange flags (24"x24"). Lights are not required on signs in place during daylight hours.

Cones are not approved for use at night.

Drums shall be placed as follows: 25' c/c on tangents, 10' c/c on tapers, and 8' c/c in radii.



GLENFINNAN COURT MAINTENANCE OF TRAFFIC SCHEMATIC
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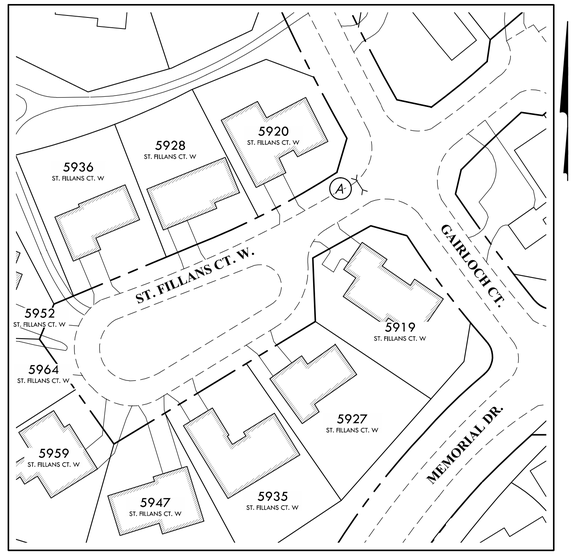

ST. FILLANS COURT WEST MAINTENANCE OF TRAFFIC SCHEMATIC
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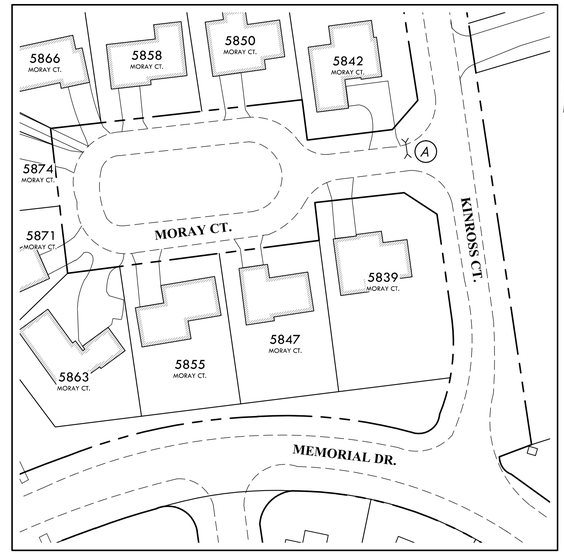
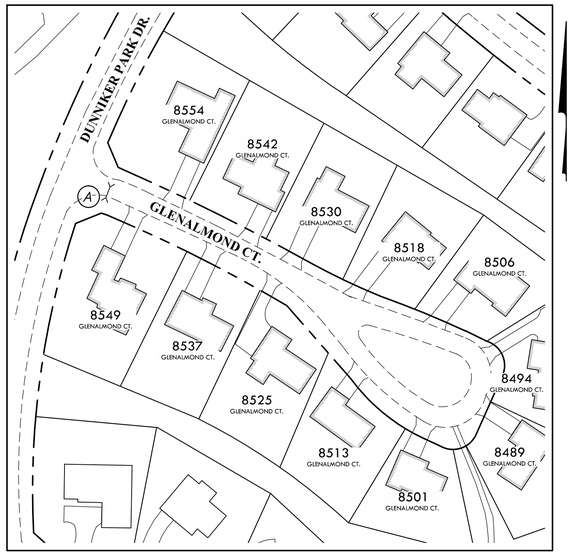
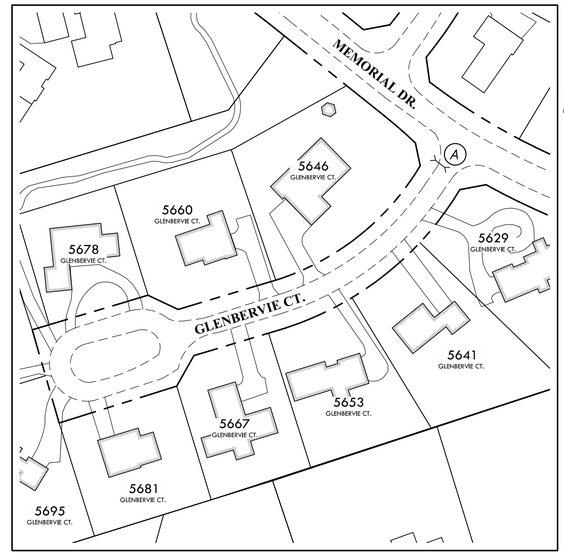


MORAY COURT MAINTENANCE OF TRAFFIC SCHEMATIC
Scale: 1" = 60'



GLENALMOND COURT MAINTENANCE OF TRAFFIC SCHEMATIC
Scale: 1" = 80'

TORWOODLEE COURT MAINTENANCE OF TRAFFIC SCHEMATIC
Scale: 1" = 100'



GLENBERVIE COURT MAINTENANCE OF TRAFFIC SCHEMATIC
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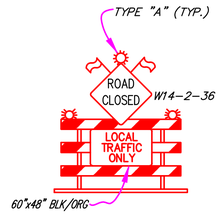

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City of Dublin

CITY OF DUBLIN, OHIO
WATERLINE REPLACEMENT
MUIRFIELD VILLAGE WATERLINE IMPROVEMENTS - PHASE 2 - 14-012-CIP
MAINTENANCE OF TRAFFIC NOTES & DETAILS

EMH&T
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Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, Ohio 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
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SCALE
As Noted

JOB NO.
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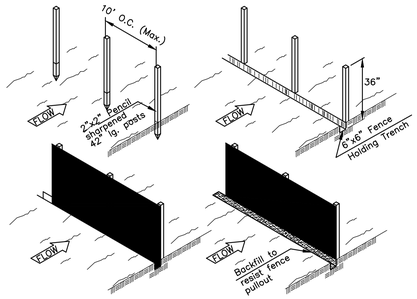
SHEET
11/13

SEDIMENT FENCE DETAIL



Sediment fence fabric shall be ODOT, Type C Geotextile fabric or the equivalent to the following properties:

MATERIAL PROPERTIES

Maximum Tensile Strength	120 lbs
Maximum Elongation at 60 lbs.	50%
Minimum Puncture Strength	50 lbs
Minimum Tear Strength	40 lbs
Minimum Burst Strength	200 psi
Apparent Opening Size	0.84 mm
Minimum Permeability	1 X 10 sec
Ultraviolet Exposure Strength Retention	70%

SEDIMENT FENCE
This sediment barrier utilizes standard strength or extra strength synthetic filter fabrics. It is designed for situations in which only sheet or overland flows are expected. Material Properties are listed in the provided table.

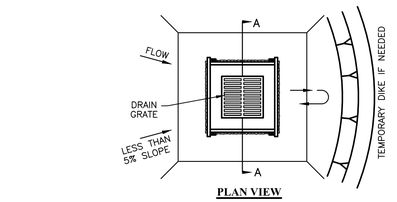
1. The height of a sediment fence shall not exceed 36 inches (higher fences may impound volumes of water sufficient to cause failure of the structure).
2. The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum of a 6 inch overlap, and securely sealed.
3. Posts shall be spaced a maximum of 10 feet apart at the barrier location and driven securely into the ground (minimum of 12 inches). Wood posts will be a minimum of 32 inches long When extra strength fabric is used without the wire support fence, post spacing shall not exceed 6 feet.
4. A trench shall be excavated approximately 6 inches wide and 6 inches deep along the line of posts and upslope from the barrier.
5. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least 1 inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of 2 inches and shall not extend more than 36 inches above the original ground surface.
6. The standard strength filter fabric shall be stapled or wired to the fence, and 8 inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.
7. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of Item No. 6 applying.
8. The trench shall be backfilled and soil compacted over the filter fabric.
9. Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.
10. To prevent water ponded by the silt fence from flowing around the ends, each end shall be constructed upslope so that the ends are at a higher elevation.

MAINTENANCE
Sediment fence shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

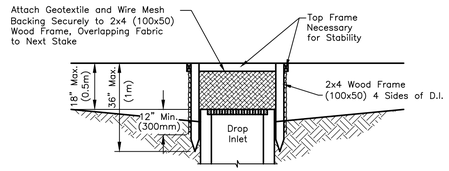
Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly.

Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one–half the height of the barrier. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared and seeded.

FILTER FABRIC INLET PROTECTION



PLAN VIEW

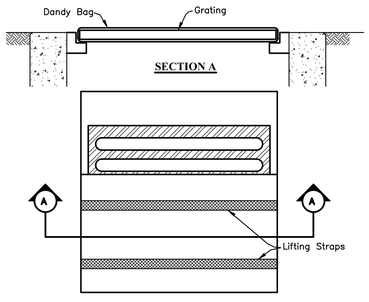


SECTION A-A

NOTES:
1. Drop Inlet Sediment Barriers are to be used for small, nearly level drainage areas. (less than 5%)
2. Use 2"x4" (100x50mm) wood or equivalent metal stakes, 3' (1m) minimum length.
3. Install 2"x4" (100x50mm) wood top frame to insure stability.
4. The top of the frame (ponding height) must be well below the ground elevation downslope to prevent runoff from bypassing the inlet. A temporary dike may be necessary on the downslope side of the structure.
5. Wire mesh backing shall be of sufficient strength to support the geotextile fabric with runoff fully impounding against the structure.
6. The geotextile shall have an equivalent opening size of 20–40 sieve and be resistant to sunlight.
7. Backfill shall placed around the inlet and compacted to ensure that runoff will not undercut the fabric.

MAINTENANCE:
The filter fabric shall be cleaned with a stiff broom. Assure that the filter fabric and geotextile is securely fastened to the frame of the structure. Backfill around the structure shall be compacted as needed to assure that runoff is not undercutting the structure.

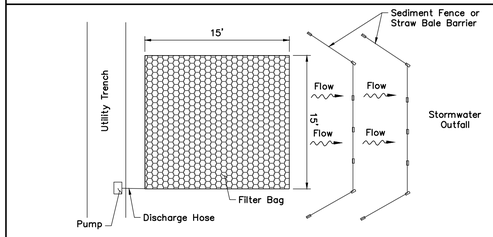
DANDY BAG OR EQUAL



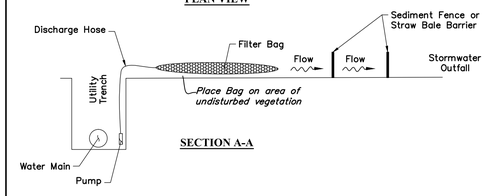
INSTALLATION:
Stand grate on end. Place Dandy Bag over grate. Roll grate over so that open end is up. Pull up slack. Tuck flap in. Be sure end of grate is completely covered by flap or Dandy Bag will not fit properly. Holding handles, carefully place Dandy Bag with grate inserted into catch basin frame so that red dot on the top of the Dandy Bag is visible.

MAINTENANCE:
With a stiff bristle broom or square point shovel remove silt & other debris off surface after each event.

TRENCH DEWATERING FILTER BAG



PLAN VIEW



SECTION A-A

INSTALLATION:
The Contractor shall pump muddy water encountered within the utility trench into a filter fabric bag. The bag shall be placed within a level undisturbed area as far away from the stormwater outfall as possible. The bag shall be placed on top of a aggregate pad. Perimeter controls such as straw bale barriers or sediment fence shall be utilized along the downstream side of the bag. The perimeter controls shall be installed to ensure that the water flowing out of the bag does not flow around the ends of the controls. Upon completion, the bag shall be removed to an area away from the stormwater outfall and opened. The accumulated sediment shall be spread out to allow to dry and stabilized with vegetation. Filterbag shall be JMD Enviro–Protection Filter Bag, size is 15'x15' or equal.

MAINTENACE:
The filter bag shall be replaced when the bag is half filled with sediment.

The Contractor shall contact the project inspector/engineer for consultative services if dewatering activities overwhelm the filter bag and perimeter controls.

CONTRACTOR'S RESPONSIBILITIES:
Prior to Construction Operations in a particular area, all sedimentation and erosion control features shall be in place. Field adjustment with respect to locations may be made by the Engineer and/or OEPA as requested.

Details have been provided on the plans in an effort to help the Contractor provide erosion and sedimentation control.

The details shown on the plan shall be considered a minimum. Additional or alternate details may be found in the O.D.N.R. Manual "Rainwater and Land Development." The Contractor shall be solely responsible for providing necessary and adequate measures for proper control of erosion and sediment runoff from the site along with proper maintenance and inspection in compliance with the NPDES General Permit for stormwater Discharges Associated with Construction Activity.

Prior to Construction Operations in a particular area, all sedimentation and erosion control features shall be in place.

Field adjustments with respect to locations and dimensions may be made by the Engineer, City of Dublin and the Ohio EPA.

It may become necessary to remove portions of sedimentation controls during construction to facilitate the grading operations in certain areas. However, the controls shall be replaced upon grading or during any inclement weather.

The Contractor shall be responsible to ensure that off–site tracking of sediments by vehicles and equipment is minimized. All such off–site sediment shall be cleaned up daily.

The Contractor shall be responsible to ensure that no solid or liquid waste is discharged into stormwater runoff. Untreated sediment–laden runoff shall not flow off of site without being directed through a control practice. Concrete trucks will not be allowed to wash out or discharge surplus concrete into or alongside rivers, streams, or creeks or into natural or man–made channels or swales leading thereto. Concrete wash water and surplus concrete shall be confined to approved areas; after solidifying, these waste materials shall be removed from the site.

The Contractor shall remove all temporary erosion and sedimentation controls upon permanent stabilization of the site.

The cost for temporary filter bags and pumping operations shall be included in the price bid for erosion and sedimentation quantities.

TEMPORARY AND PERMANENT SEEDING:
The limits of seeding and mulching are indicated on the plan. Seeding has been assumed to be the work limits or right–of–way, whichever is greater. All areas not designated to be seeded shall remain under natural ground cover. Those areas disturbed outside the seeding limits shall be seeded and mulched at the Contractor's expense.

ALL EROSION & SEDIMENT CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATION AT THE DIRECTION OF THE CITY OF DUBLIN, PROJECT ENGINEER AND/OR OHIO EPA.

PLAN DESIGNER: EMH&T, Inc.
Engineers, Surveyors, Planners, Scientists
5500 New Albany Road
Columbus, Ohio 43054
PH: 614–775–4500 FAX: 614–775–4800

PROJECT OWNER: City of Dublin
General phone: (614) 410–4600
fax: (614) 410–4699
www.dublin.oh.us

PROJECT DESCRIPTION: This improvement consists of installing approximately 1,735 feet of ductile iron water main and appurtenances on Glenfinnan Ct., St. Fillans Ct. W., Moray Ct., Glenalmond Ct., Torwoodlee Ct. and Glenbervie Ct..

EXISTING SITE CONDITIONS: The sites are existing suburban residential streets.

RECEIVING STREAM: Existing storm sewer system.

ADJACENT AREAS: The sites are bounded by residences and a golf course.

CRITICAL AREAS: None

EROSION AND SEDIMENT MEASURES: Erosion and sediment will be controlled by the use of inlet protection and sediment fence.

PERMANENT STABILIZATION: All disturbed areas shall be seeded and mulched or paved to restore them to existing conditions.

MAINTENANCE: All erosion control devices are required to be inspected with a minimum frequency of every seven days or within 24 hours of a 1/2 inch rain event (as stated in the Specifications). Any damaged facilities are to be replaced/repaired immediately as may be necessary. The Contractor shall be required to perform street sweeping operations on the roadway pavement at the conclusion of every work day or as requested by the City of Dublin.

CONSTRUCTION SEQUENCE:
1. The Contractor shall place the required sediment fence and inlet protection on existing structures as well as all other erosion control measures noted hereon prior to any construction activity in accordance with the plan details.
2. The Contractor shall perform the installation of the water mains as delineated within the plans. Provisions for inlet protection shall be established as referenced by the details shown on this sheet.
3. The Contractor shall place seeding and mulching as necessary to reestablish all denuded areas. Limits of seeding shall be as defined on the plan.
4. The Contractor shall properly maintain all erosion and sediment control at all times during the construction operations.
5. The Contractor shall remove and dispose of the erosion control devices only after all areas have been paved and/or seeded and mulched or at the City's direction. After removal of the erosion control devices, the Contractor shall clean all inlets and storm sewer pipes of all sediment & debris incurred during construction.

SCHEDULE: The Contractor shall provide a schedule of operations to the City of Dublin. Sedimentation and erosion control features shall be placed and maintained in accordance with this schedule.

SITE CONTACT:

City of Dublin
Todd Garwick, P.E.
Civil Engineer II
General phone: (614) 410–4600 or
Direct Phone: (614) 410–4665
fax: (614) 718–4346
www.dublin.oh.us
Email: tgarwick@dublin.oh.us

City of Dublin
Dean Sanders
Engineering Project Coordinator
General Ph: (614) 410–4600
Direct Ph: (614) 410–4623
Fax: (614) 718–4346
www.dublin.oh.us
Email: dsaunders@dublin.oh.us

REVISIONS

MARK	DATE	DESCRIPTION

City of Dublin

CITY OF DUBLIN, OHIO
WATERLINE REPLACEMENT
MUIRFIELD VILLAGE WATERLINE IMPROVEMENTS - PHASE 2 - 14-012-CIP
EROSION CONTROL NOTES & DETAILS

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE: May, 2014

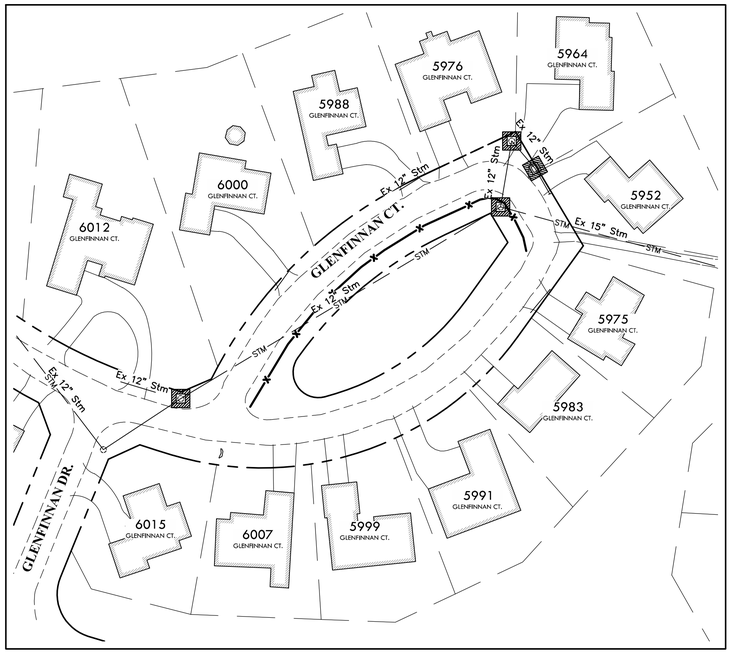
SCALE: None

JOB NO.: 2014-0167

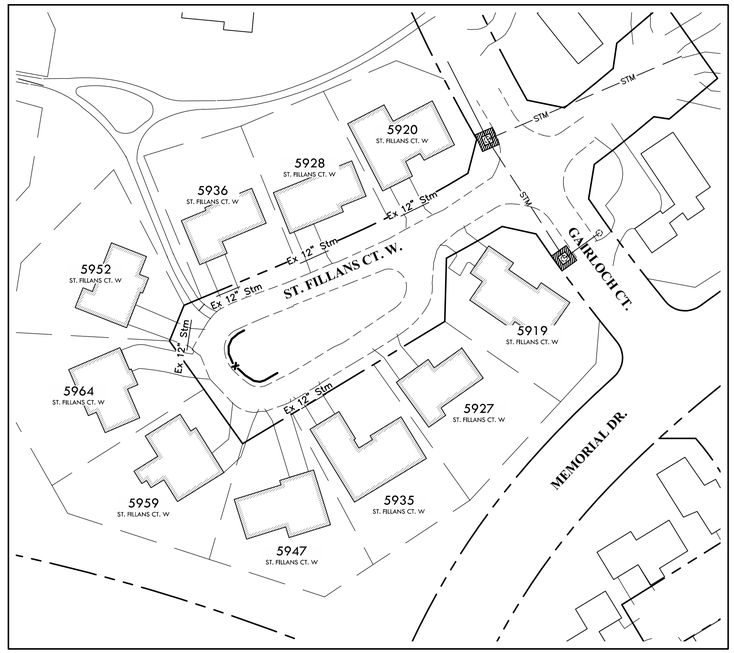
SHEET: 12/13

BID SET
NOT TO BE USED FOR CONSTRUCTION

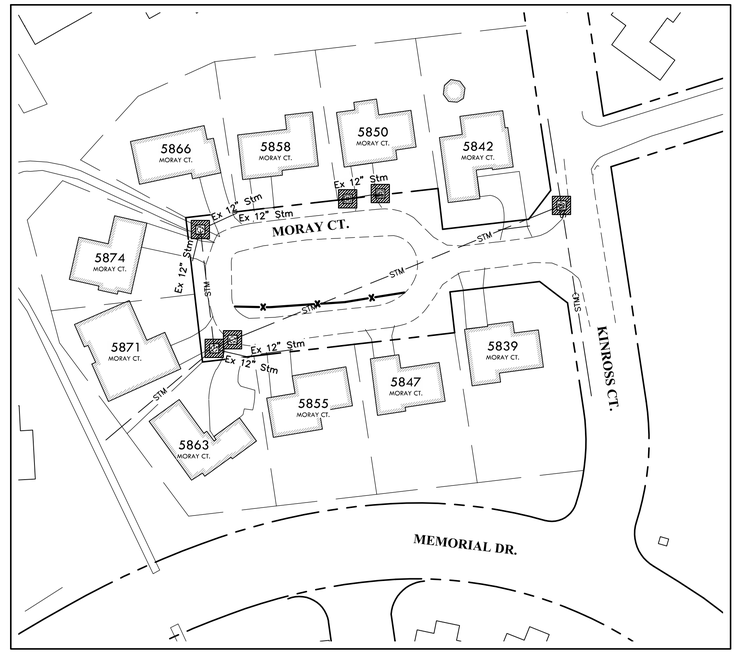
PLAN SET DATE
May, 2014



GLENFINNAN COURT EROSION CONTROL SCHEMATIC
Scale: 1" = 60'



ST. FILLANS COURT WEST EROSION CONTROL SCHEMATIC
Scale: 1" = 60'



MORAY COURT EROSION CONTROL SCHEMATIC
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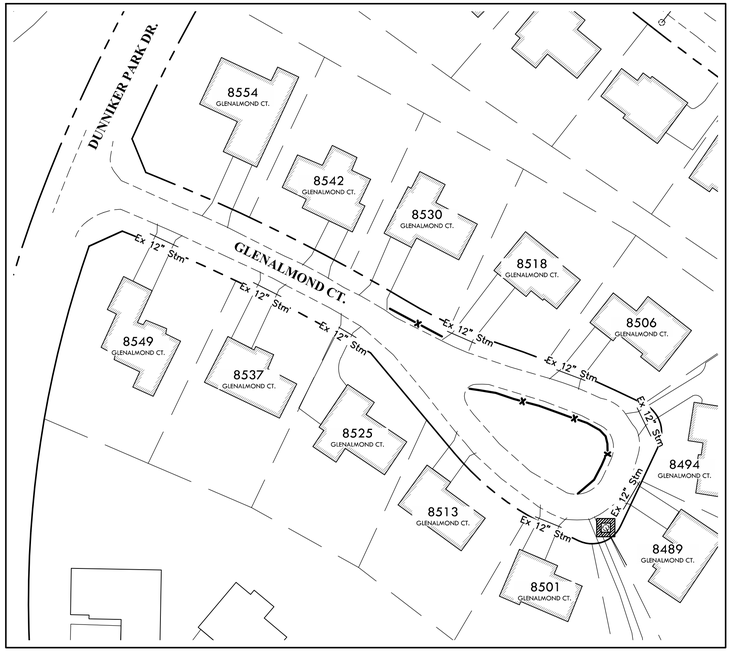

GLENALMOND COURT EROSION CONTROL SCHEMATIC
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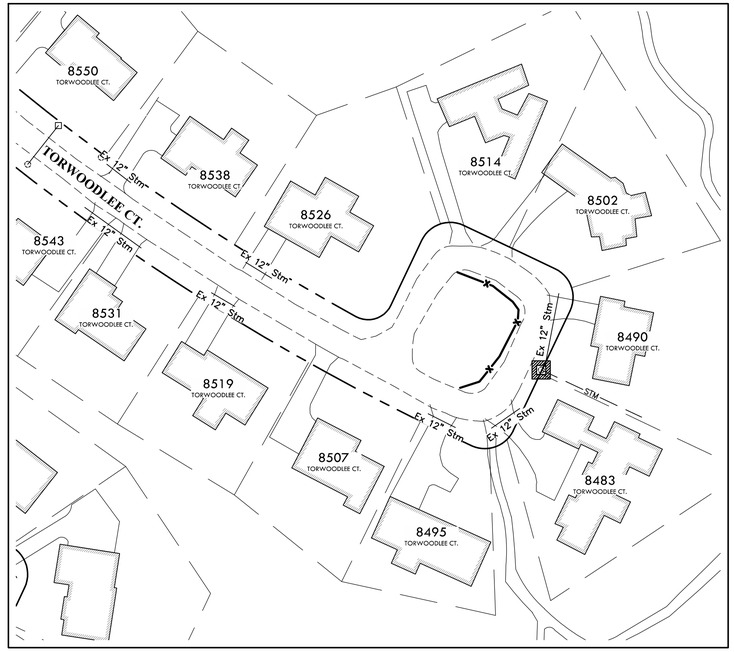
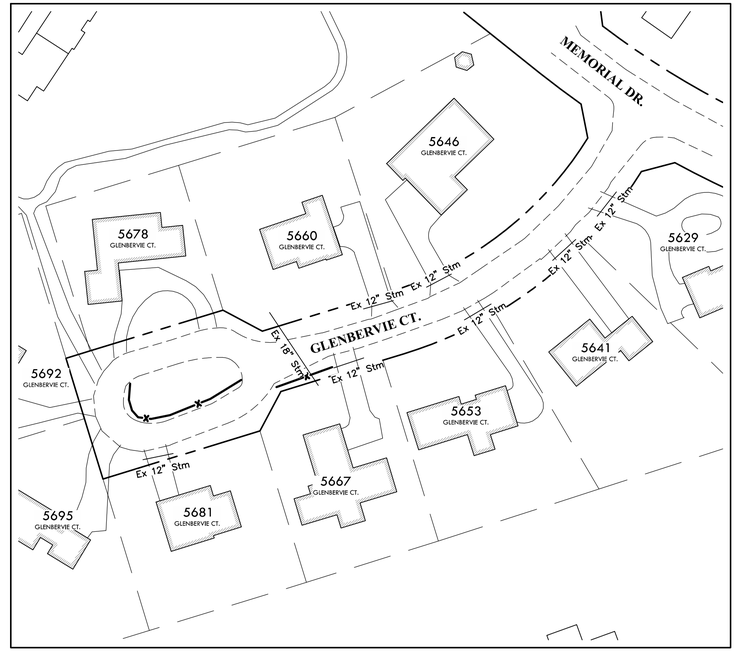


TORWOODLEE COURT EROSION CONTROL SCHEMATIC
Scale: 1" = 60'



GLENBERVIE COURT EROSION CONTROL SCHEMATIC
Scale: 1" = 60'

LEGEND:

Sediment Fence

Inlet Protection

BID SET
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
May, 2014

REVISIONS

MARK	DATE	DESCRIPTION

City of Dublin

CITY OF DUBLIN, OHIO
WATERLINE REPLACEMENT
MUIRFIELD VILLAGE WATERLINE IMPROVEMENTS - PHASE 2 - 14-012-CIP
EROSION CONTROL PLAN

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, Ohio 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE
May, 2014

SCALE
As Noted

JOB NO.
2014-0167

SHEET
13/13