

GENERAL NOTES

- 1. City of Columbus 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 City or Contractor shall be responsible to obtain all necessary permits including but not limited to Ohio EPA Permits to Install (PTI) and Notices of Intent (NOI), Building Permits, 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. Following completion of construction of the site improvements and before requesting occupancy, a proof survey shall be provided to the Division of Engineering that documents "as-built" elevations, dimensions, slopes and alignments of all elements of this project. The proof survey shall be prepared, signed and submitted by the Professional Engineer who sealed the construction drawings.
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 bench marks, 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 water courses 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 solid 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 ODF, Type III according to Item 636. Item 911 of the Standard Specifications may be used elsewhere.
17. The Contractor shall submit a copy of the approved construction drawings and a list of proposed precast concrete product manufacturers to the City of Columbus Construction Inspection Division before commencing construction. Send the information to the following address: Construction Inspection Division, City of Columbus, 1800 East 17th Avenue, Columbus, Ohio 43219. Send a copy of the transmittal letter to the following address: Division of Engineering, City of Dublin, 5800 Shier Rings Road, Dublin, Ohio 43016.
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. Conduit must be directionally bored across streets instead of open cut, unless specifically approved by the City Engineer. Use of pneumatic air ram devices is not permitted. Permits to construct in the right-of-way of existing streets must be obtained from the City of Dublin Division of Engineering before commencing construction. Should open cutting of existing pavement be permitted, Controlled Density Backfill (Type III) shall be used in place of compacted granular backfill, according to Item 636 of the Standard Specifications.
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. All inlets shall be channelized.
26. Park areas shall be fine-graded and seeded with the following mixture: Improved Kentucky Bluegrass, 40% of weight (2 varieties in equal parts) Improved Perennial Ryegrass, 60% of weight (2 varieties in equal parts) Germination Rate: 85% Application Rate: 7 lbs per 1000 sq ft as directed by the Division of Parks & Recreation, City of Dublin, Ohio.
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.
29. The Contractor shall coordinate with COTA throughout the various phases of the project. The Contractor shall provide COTA with an estimated time for the construction activities within this area so that COTA may make the appropriate modifications to service.

UTILITIES

- 1. The following utilities are known to be located within the limits of this project:
Columbia Gas of Ohio: City of Dublin, Division of Engineering, 5800 Shier Rings Road, Dublin, Ohio 43016, (614) 410-4600
Matt Meyerers: City of Columbus, Division of Power and Water (Water), 910 Dublin Road, 2nd Floor, Columbus, Ohio 43215, (614) 645-7677
3350 Johnny Appleseed Ct: City of Columbus, Division of Power and Water (Water), 910 Dublin Road, 2nd Floor, Columbus, Ohio 43215, (614) 645-7677
American Electric Power: Time Warner Cable, 111 North 4th Street, Columbus, OH 43215, (614) 223-7276
Paul Paxton: Ray Maurer, 3750 Interchange Road, Gahanna, Ohio 43230-6605, (614) 481-5262
Matt Meyerers: Bill Muether, 550 Leader Street, Marion, Ohio 43202, (740) 383-0527
American Electric Power: Wide Open West, Jaytee Novaria, 3675 Corporate Drive, Columbus, Ohio 43231, (614) 948-4653

- 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 identify 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 owner and 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

- 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. All traffic lanes of public roadways shall be fully open to traffic from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM unless authorized differently by the City Engineer. At all other hours the Contractor shall maintain minimum one-lane two-way traffic. Uniformed, off-duty police officers shall replace flagmen designated by the OMUTCD and shall be present whenever one-lane, two-way traffic control is in effect. Police cruisers may be required as directed by the City Engineer.
3. If the City Engineer determines proper provisions for traffic control are not being provided by the Contractor, 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. The City is responsible for submitting a Notice of Intent (NOI) to be reviewed and approved by the Ohio EPA. The NOI must be submitted to OEPA 45 days prior to the start of construction and may entitle coverage under the Ohio EPA General Permit for Stormwater Discharges associated with construction activity. A project location map must be submitted with the NOI. A sediment and erosion control plan must be submitted to the City Engineer for approval if a sediment and erosion control plan has not already been included with the approved construction drawings. This plan must be made available at the project site at all times. The design of erosion control systems shall follow the requirements of Ohio EPA, Item 207 of Ohio Department of Transportation Standard Specifications, and the City Engineer. An individual NPDES Stormwater Discharge Permit may be required. The Contractor shall be considered the permittee.
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 14 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.

SANITARY SEWERS

- 1. Construction of the sanitary sewer will be permitted upon receiving an OEPA Permit to Install (PTI). The city is responsible for obtaining all required Ohio EPA approvals and paying review fees.
2. Sanitary sewage collection systems shall be constructed in accordance with the rules, regulations, standards and specifications of the City of Dublin, Ohio EPA, Ohio Department of Health and the current edition of the Great Lakes - Upper Mississippi River Board (Ten States) - Recommended standards for wastewater facilities.
3. The minimum requirements for sanitary sewer pipes with diameters 15 inch and smaller shall be reinforced concrete pipe ASTM C76 Class 3, or PVC sewer pipe ASTM D3034, SDR 35. Pipe for 6 inch diameter house service lines shall be PVC pipe ASTM D3034, SDR 35. PVC pipe shall not be used at depths greater than 28 feet, instead Ductile Iron, CI, 50 (AWWA 151) shall be used with prior written approval by the City Engineer. Pipe materials and related structures shall be shop tested in accordance with City of Columbus Construction Inspection Division quality control requirements.
4. The minimum requirements for sanitary sewer pipes with diameters greater than 15 inch shall be reinforced concrete pipe ASTM C76 with Class according to the approved construction drawings.
5. All in-line wye and tee connections in concrete sewers, 18 inch diameter and larger, shall be either Kor-N-Tee or Kor-N-Seal connections conforming to the manufacturer's recommendations.
6. Granular backfill shall be compacted granular material according to Item 912 of the Standard Specifications or Controlled Density Backfill according to Item 636, Type III of the Standard Specifications as directed by the City Engineer.
7. All manhole lids shall be provided with continuous wye-sealing gaskets. The approved construction drawings shall show where bell-and-spigot are required. Sanitary sewer manholes shall be precast concrete or as approved by the City Engineer and conform to the City of Dublin sanitary manhole standard drawing. Manhole lids shall include City of Dublin logo.
8. All PVC sewer pipes shall be deflection tested no less than 60 days after completion of backfilling operations. All other requirements shall be according to Item 901.21 of the Standard Specifications.
9. Temporary bulkheads shall be placed in pipes at locations shown on the approved construction drawings and shall remain in place until the sewers have been approved for use by the City Engineer. The cost for furnishing, installing, maintaining, and removing bulkheads shall be included in the contract unit bid price for the various sanitary sewer items.
10. All sanitary sewers including sanitary sewer service lines shall be subjected to and pass infiltration or exfiltration tests according to Item 901 of the Standard Specifications and must be approved for use by the City Engineer before any service connections are tapped into sewers.
11. For sanitary sewer infiltration, leakage through joints shall not exceed 100 gallons per inch of tributary sewer diameter per 24 hours per mile of length or the computed equivalent. All sanitary sewers shall be tested.
12. At the determination of the City Engineer, the Contractor may be required to perform a TV inspection of the sanitary sewer system prior to final acceptance by the City. This work shall be completed by the Contractor at his expense.
13. Visible leaks or other defects observed or discovered during TV inspection shall be repaired to the satisfaction of the Engineer.
14. Roof drains, foundation drains, field tie and other clean water connections to the sanitary sewer system are strictly prohibited according to Section 51.23 of the Dublin Code of Ordinances.
15. All water lines shall be located at least 10 feet horizontally and 18 inches vertically, from sanitary sewers and storm sewers, to the greatest extent practicable. Where sanitary sewers cross water mains or other sewers or other utilities, trench backfill shall be placed between the pipes crossing and shall be compacted granular material according to Item 912 of the Standard Specifications. In the event that a water line must cross within 18 inches of a sanitary sewer, the sanitary sewer shall be concrete encased or consist of ductile iron pipe material.
16. Service risers shall be installed where the depth from wyes to proposed ground elevation exceeds 10 feet. Tops of risers shall be no less than 9 feet below proposed ground elevation if basement service is intended.
17. Where service risers are not installed, a minimum 5-foot length of sanitary sewer service pipe of the same size as the wye opening shall be installed.
18. The Contractor shall furnish and place, as directed, approved wye poles made of 2 inches x 2 inches lumber at all wye locations, ends of extended services, or at the end of each riser where risers are required. Wye poles shall be visible before acceptance by the City. The cost of these poles shall be included in the contract unit price for the various sewer items.
19. Existing sanitary sewer flows shall be maintained at all times. Costs for pumping and bypassing shall be included in the Contractor's unit price bid for the related items.

- 20. The Contractor shall furnish all material, equipment, and labor to make connections to existing manholes. The sewer pipe to manhole connections for all sanitary sewers shall be flexible and watertight. All holes shall be neatly cored. The sewer pipe barrel at the springline shall not extend more than 1 inch beyond the inside face of the manhole. To maintain flexibility in the connection, a 1-inch space shall be left between the end of the pipe inside the manhole and the concrete channel; this space shall be filled with a waterproof flexible joint filler. Any metal that is used shall be Type 300 Series Stainless Steel. The connection may be any of the following types:
A. Rubber sleeve with stainless steel banding.
1) Kor-N-Seal as manufactured by National Pollution Control Systems, Inc.
2) Lock Joint Flexible Manhole Sleeve as manufactured by Interpace Corporation.
3) Or equal as approved by the City Engineer.
B. Rubber gasket compression.
1) Press Wedge II as manufactured by Press-Seal Gasket Corporation.
2) Dura Seal III as manufactured by Dura Tech, Inc.
3) Link-Seal as manufactured by Thunderline Corporation.
4) Or equal as approved by the City Engineer.

The cost for this work along with a new channelized base for the manhole shall be included in the unit bid price for the related items of work.

STORM SEWERS

- 1. All storm water detention and retention areas and major flood routing swales shall be constructed to finish grade and hydro-seeded and hydro-mulched according to Items 203 and 659 of the Standard Specifications.
2. Where private storm sewers connect to public storm sewers, the last run of private storm sewer connecting to the public storm sewer shall be Reinforced Concrete Pipe conforming to ASTM Designation C76, Wall B, Class IV for pipe diameters 12 inches to 15 inches, Class III for 18 inches to 24 inch pipes, and 27 inches and larger pipe shall be Class II, unless otherwise shown on the approved construction drawings. Inspection is required by the City of Dublin's Division of Engineering.
3. Granular backfill shall be compacted granular material according to Item 912 of the Standard Specifications or Controlled Density Backfill according to Item 636, Type III of the Standard Specifications as directed by the City Engineer.
4. All storm sewers shall be Reinforced Concrete Pipe conforming to ASTM Designation C76, Wall B, Class IV for pipe diameters 12 inches to 15 inches, Class III for 18 inches to 24 inch pipes, and 27 inches and larger pipe shall be Class II, unless otherwise shown on the approved construction drawings.
5. All 8 inch storm sewers shall be Ductile Iron Pipe conforming to the material specification of AWWA C151, Joint Specification of AWWA C111, and Bedding Classification of ASTM C-12. All Ductile Iron Pipe shall be concrete encasing per City of Columbus Standard Drawing AA-S148.
6. Headwalls and endwalls shall be required at all storm sewer inlets or outlets to and from stormwater management facilities. Natural stone and/or brick approved by the City Engineer shall be provided on all visible headwalls and/or endwalls surfaces. Surfaces to be acid washed before approval of stone facing.
7. Storm inlets or catch basins shall be channelized and have bicycle safe grates.
8. Storm sewer outlets greater than 18 inches in diameter accessible from stormwater management facilities or watercourses shall be provided with safety grates, as approved by the City Engineer.

MAIL DELIVERY

- 1. The Contractor shall be responsible to ensure that U.S. 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.
2. 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

- 1. The Contractor shall make proper arrangements with the Dublin Service Department and the Columbus Division of Power and 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 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.
2. Before the final estimate is paid, the Contractor shall submit a letter from the City of Columbus Division of Power and Water (Water) to the City Engineer stating that the Contractor has returned the Siamese Valve to the City of Columbus and has paid all costs arising from the use of the fire hydrants.

MISCELLANEOUS - CITY NOTES

- 1. High Density Polyethylene (HDPE) corrugated pipe with integrally formed smooth interior wall, ADS N-12 or approved equal, is an approved alternate to reinforced concrete pipe in paved and non-paved areas.
2. HDPE pipe joints shall be made using watertight couplers with "O"-ring gasket, ADS WT of approved equal, where rubber "O"-ring gasket (ASTM C-361) pipe is required on approved construction plans or within contract documents. All other pipe shall have a bell and spigot joint with rubber gasket meeting ASTM F477.
3. All bedding material shall be in accordance with City of Columbus Standard Construction Drawing AA-S149.
4. Backfill material shall be placed in accordance with Item 911 of the City of Columbus Construction Material Specifications (CMS).
5. Backfill material in areas located outside the public right-of-way shall be placed in accordance with City of Columbus Standard Construction Drawing AA-S155.
6. Height of cover shall be in accordance with the Ohio Department of Transportation (ODOT) Location and Design (L&D) Manual, Volume Two, Section 1008.3.1.
7. All HDPE pipe shall be mandrel tested in accordance with City of Columbus Item 901.21, with the exception that the waiting period prior to testing shall be 30 days.
8. For any and all installations requiring the minimization of trench water migration, anti-seep collars shall be installed in accordance with the ODOT L&D Manual, Volume Two Section 1118.4.1.2 and ODOT Standard Hydraulic Construction Drawing WQ-1.2.

ROCK EXCAVATION

Subsurface investigations that were performed in the area indicate the presence of bedrock within the limits of excavation. Approximate top of bedrock information shown on the plans was interpolated for design purposes only. These interpolations are not warranted to reflect actual subsurface conditions. The Contractor shall examine the available information; including subsurface investigations performed for this project, and obtain additional information if necessary, in his judgement, for estimating, bidding, and construction purposes.

Excavation of rock associated with pavement excavation will be included for payment under Excavation, As Per Plan. Rock excavation for storm sewer and utility trenches will be included for payment with the associated utility installation.

The use of blasting is not permitted.

AS-BUILTS

- 1. As-builts of the site, utilities and stormwater management facilities shall be performed per requirements of the City of Dublin Administrative Policy & Procedure #08-030 prior to obtaining occupancy for the building.

ITEM SPECIAL - SIGN, COMPLETE

- 1. Payment for this item shall include all labor, materials, equipment and related accessories for a complete sign as shown and described on the plans including, but not limited to, sign cabinet, linear LED floodlight, conduit, wall caps, wall stone, concrete footing and reinforcement. No separate itemized payments shall be made. See lighting plans for power source.

Table with 4 columns: Item, Description, Quantity, Units. It lists various construction items such as Roadway (Clearing and Grubbing, Concrete Walk Removed, etc.), Erosion Control (Inlet Protection, Perimeter Filter Fabric Fence, etc.), Drainage (Catch Basin, Manhole Type C, etc.), Sanitary Sewer (Existing Sanitary Manhole, etc.), Pavement (Aggregate Base, Trackless Tack Coat, etc.), Lighting (Connector Kit, Luminaire, etc.), Landscaping (Deciduous Tree, etc.), and Miscellaneous (Dust Control, etc.).

Vertical sidebar containing revision information (MARK, DATE, DESCRIPTION, REVISIONS), project title (DALE DRIVE COTA PARK AND RIDE), and sheet information (CITY OF DUBLIN, FRANKLIN COUNTY, OHIO PRIVATE SITE IMPROVEMENT PLAN FOR DALE DRIVE COTA PARK AND RIDE GENERAL SUMMARY AND NOTES, DATE: November 18, 2015, SCALE: Not To Scale, JOB NO.: 2014-0588, SHEET: 2/22).

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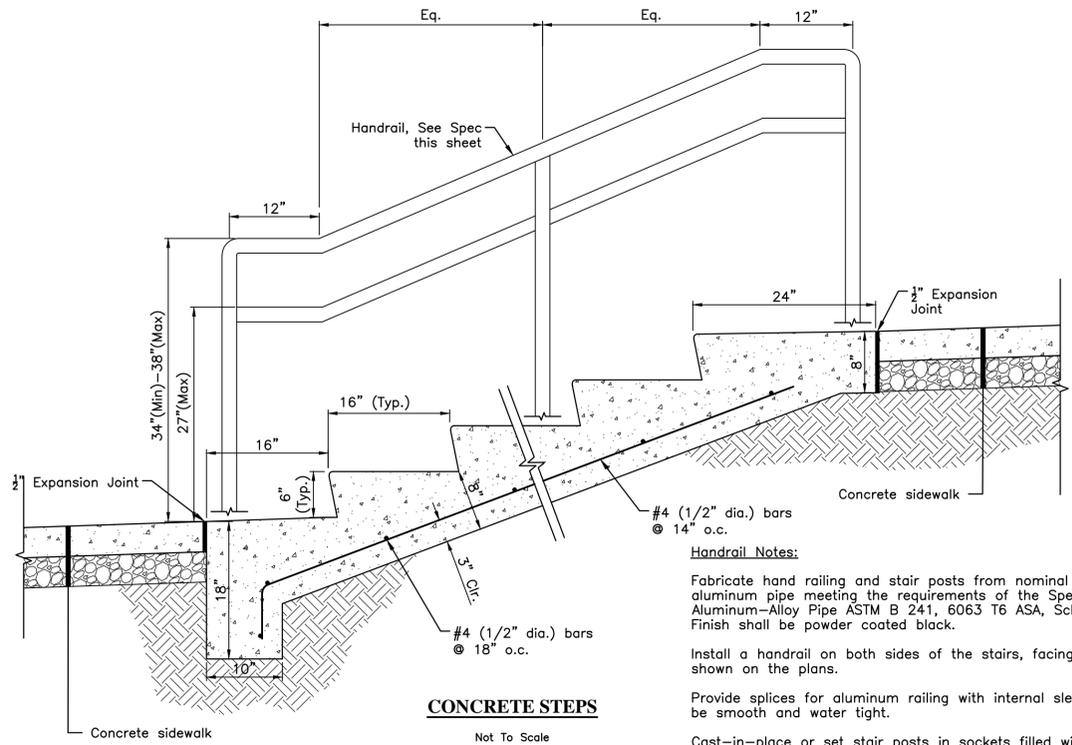
MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
 PRIVATE SITE IMPROVEMENT PLAN
 FOR
DALE DRIVE COTA PARK AND RIDE
 DETAILS



DATE	November 18, 2015
SCALE	Not To Scale
JOB NO.	2014-0588
SHEET	3/22



CONCRETE STEPS

Not To Scale

Handrail Notes:

Fabricate hand railing and stair posts from nominal size 1 1/2" diameter aluminum pipe meeting the requirements of the Specification for Aluminum-Alloy Pipe ASTM B 241, 6063 T6 ASA, Schedule Number 40. Finish shall be powder coated black.

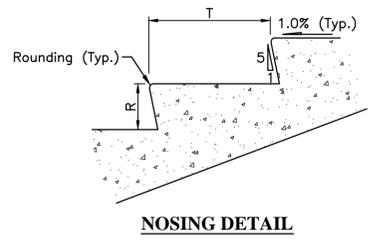
Install a handrail on both sides of the stairs, facing up, unless otherwise shown on the plans.

Provide splices for aluminum railing with internal sleeves, and after welding, be smooth and water tight.

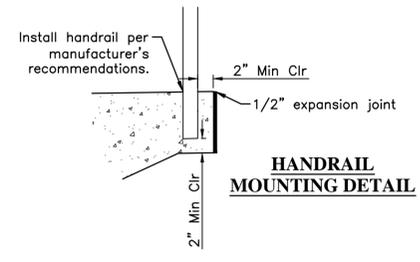
Cast-in-place or set stair posts in sockets filled with 1:3 proportioned cement mortar. Provide a heavy coating of asphalt varnish or cool-tar pitch paint (both inside and outside) to the portion of aluminum stair posts set into concrete or mortar.

Embed the stair posts a minimum depth 4".

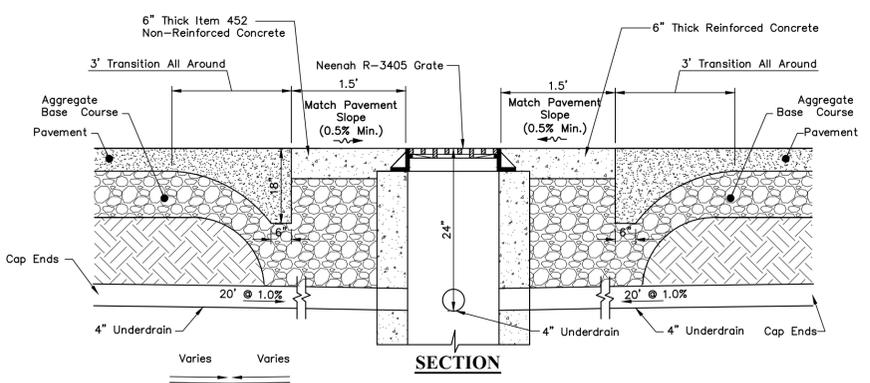
Install stair posts and handrails free of burrs, or sharp projections.



NOSING DETAIL



HANDRAIL MOUNTING DETAIL

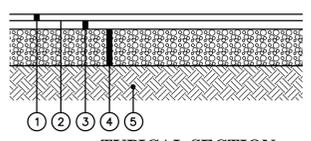


SECTION

The 4" Perforated Underdrain shall be provided for each structure in all four directions unless otherwise directed.

The Perforated Pipe shall be protected from heavy traffic after installation prior to placement of proposed pavement.

The Contractor shall initially set the top of casting for an inlet structure within the paved areas to the elevation of the intermediate pavement course. Prior to final paving of surface course, the Contractor shall adjust the top of casting to finish pavement grade. cost of the above shall be included in the price bid for the various related sewer items.

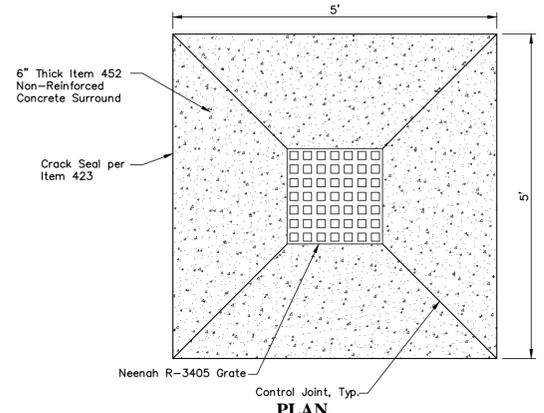


TYPICAL SECTION

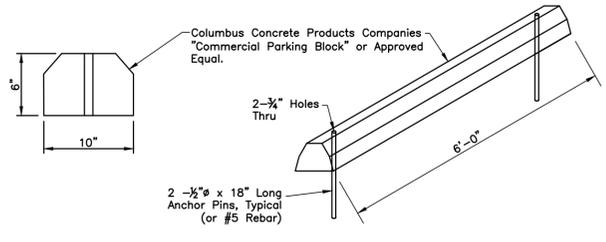
- 1 Item 448, 1 1/2" Asphalt Concrete Surface Course
- 2 Item 407, NTSS-1HM Trackless Tack Coat (0.06 Gal/Sq. Yd)
- 3 Item 448, 2 1/2" Asphalt Concrete Intermediate Course
- 4 Item 304, 6" Crushed Aggregate Base
- 5 Item 203, Subgrade Compaction

Note:

Pavement Section is per the recommendation of the Geotechnical Report provided by Geotechnical Consultants Inc. dated October 6, 2015. All Pavement Materials shall conform to the City of Columbus Construction and Material Specifications.

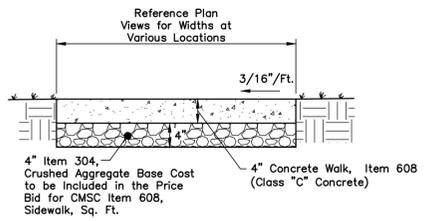


CONCRETE SURROUND WITH ASPHALT TURNDOWN FOR STRUCTURES WITHIN PAVEMENT



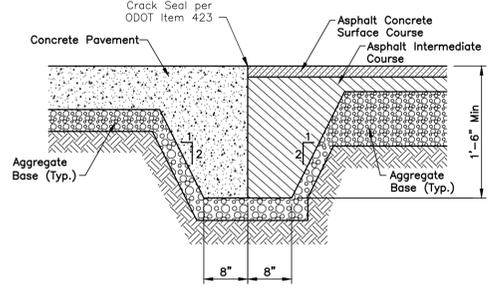
STANDARD PARKING BLOCK DETAIL

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TYPICAL SIDEWALK SECTION

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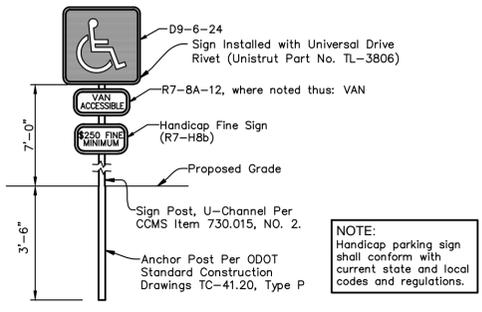


Note:

Contractor Shall Provide Turndown Anywhere Asphalt and Concrete or Concrete Base Pavement Meet.

CONCRETE/ASPHALT TURNDOWN DETAIL

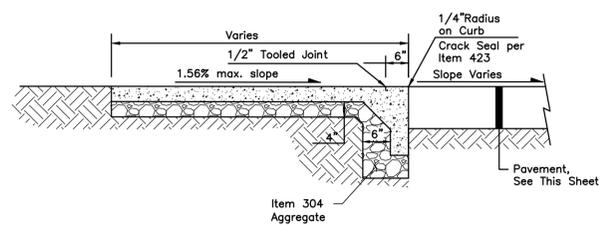
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HANDICAP PARKING SIGN DETAIL

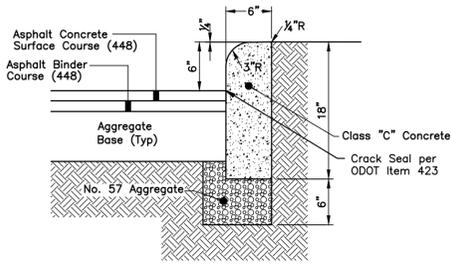
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NOTE:
Handicap parking sign shall conform with current state and local codes and regulations.



FLUSH COMBINATION CURB AND SIDEWALK

Not To Scale

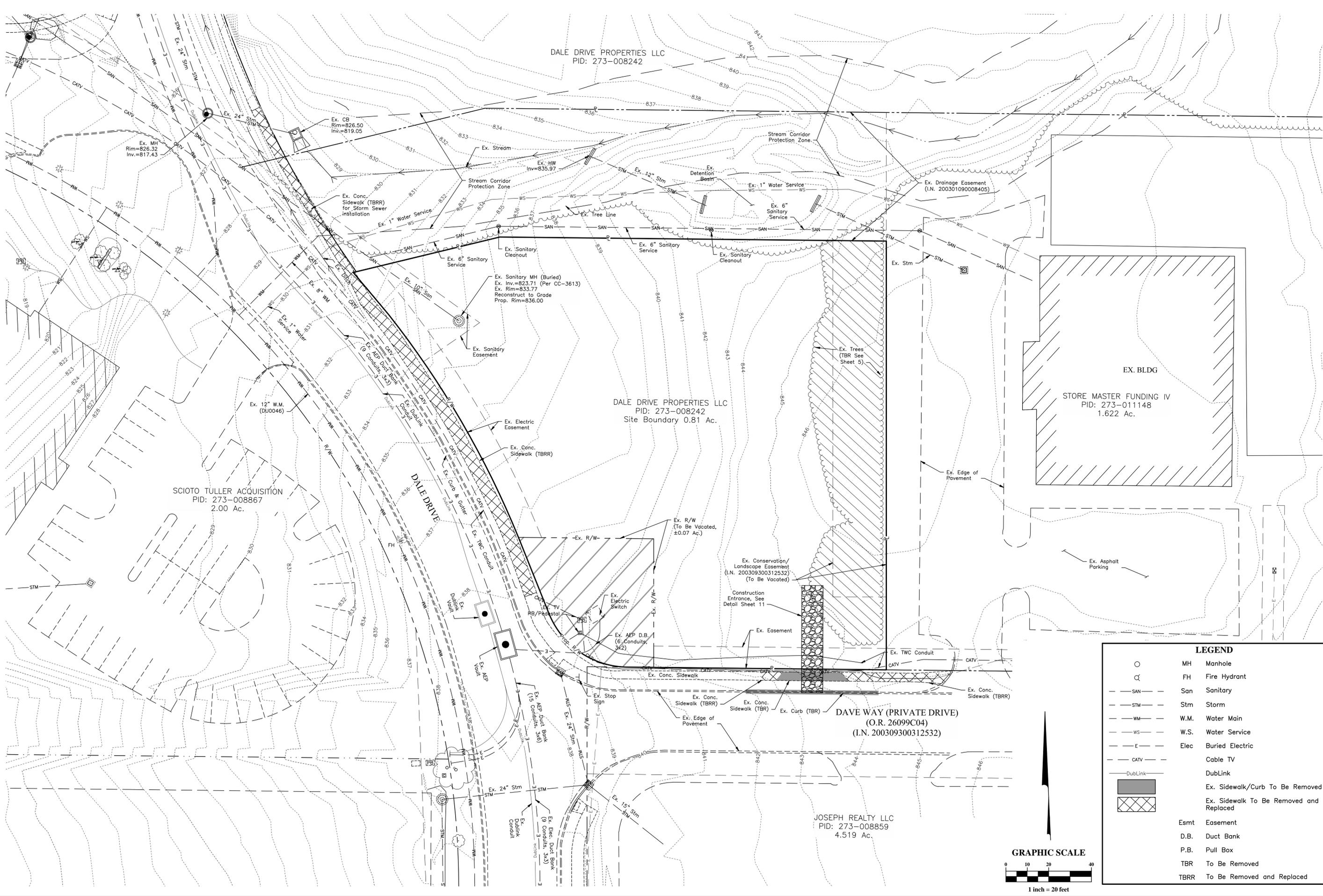


STRAIGHT 18" CONCRETE CURB

Not To Scale

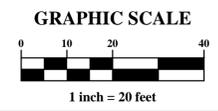
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LEGEND

○	MH	Manhole
⊕	FH	Fire Hydrant
---	SAN	San Sanitary
---	STM	Storm
---	WM	W.M. Water Main
---	WS	W.S. Water Service
---	E	Elec Buried Electric
---	CATV	Cable TV
---	DubLink	DubLink
▨	Ex. Sidewalk/Curb To Be Removed	
▩	Ex. Sidewalk To Be Removed and Replaced	
---	Esmt	Easement
---	D.B.	Duct Bank
---	P.B.	Pull Box
---	TBR	To Be Removed
---	TBRR	To Be Removed and Replaced



REVISIONS

MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
PRIVATE SITE IMPROVEMENT PLAN
 FOR
DALE DRIVE COTA PARK AND RIDE
EXISTING CONDITIONS AND DEMOLITION PLAN



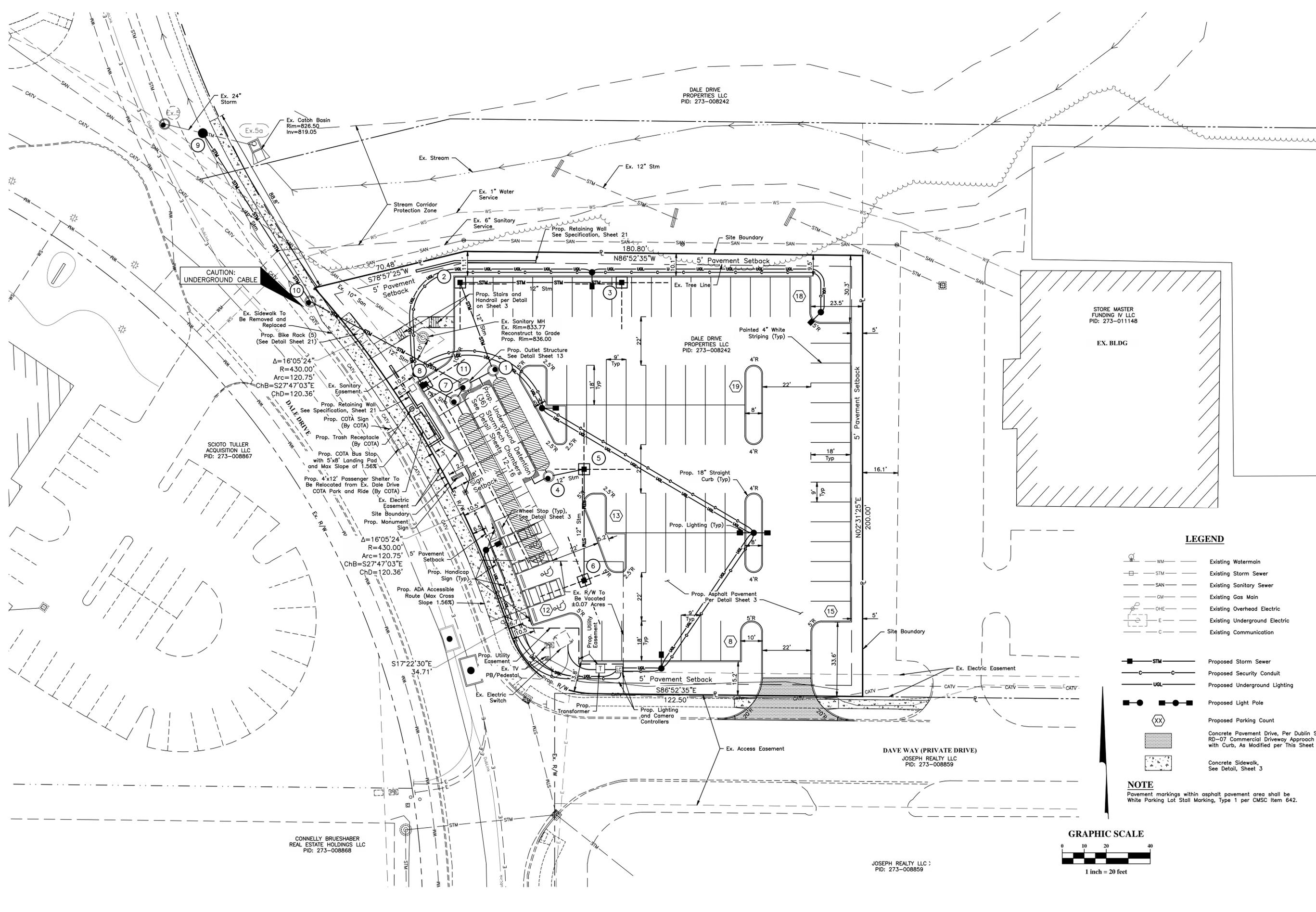
DATE
November 18, 2015

SCALE
As Noted

JOB NO.
2014-0588

SHEET
4/22

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**CAUTION:
UNDERGROUND CABLE**

SCIOTO TULLER
ACQUISITION LLC
PID: 273-008867

CONNELLY BRUESHABER
REAL ESTATE HOLDINGS LLC
PID: 273-008868

DALE DRIVE
PROPERTIES LLC
PID: 273-008242

DALE DRIVE
PROPERTIES LLC
PID: 273-008242

DAVE WAY (PRIVATE DRIVE)
JOSEPH REALTY LLC
PID: 273-008859

JOSEPH REALTY LLC
PID: 273-008859

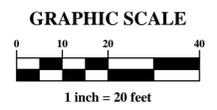
STORE MASTER
FUNDING IV LLC
PID: 273-011148

EX. BLDG

LEGEND

- Existing Watermain
- Existing Storm Sewer
- Existing Sanitary Sewer
- Existing Gas Main
- Existing Overhead Electric
- Existing Underground Electric
- Existing Communication
- Proposed Storm Sewer
- Proposed Security Conduit
- Proposed Underground Lighting
- Proposed Light Pole
- Proposed Parking Count
- Concrete Pavement Drive, Per Dublin Std. Drawing RD-07 Commercial Driveway Approach for Streets with Curb, As Modified per This Sheet
- Concrete Sidewalk, See Detail, Sheet 3

NOTE
Pavement markings within asphalt pavement area shall be White Parking Lot Stall Marking, Type 1 per CMSC Item 642.



MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
 PRIVATE SITE IMPROVEMENT PLAN
 FOR
DALE DRIVE COTA PARK AND RIDE
 SITE STAKING AND UTILITY PLAN



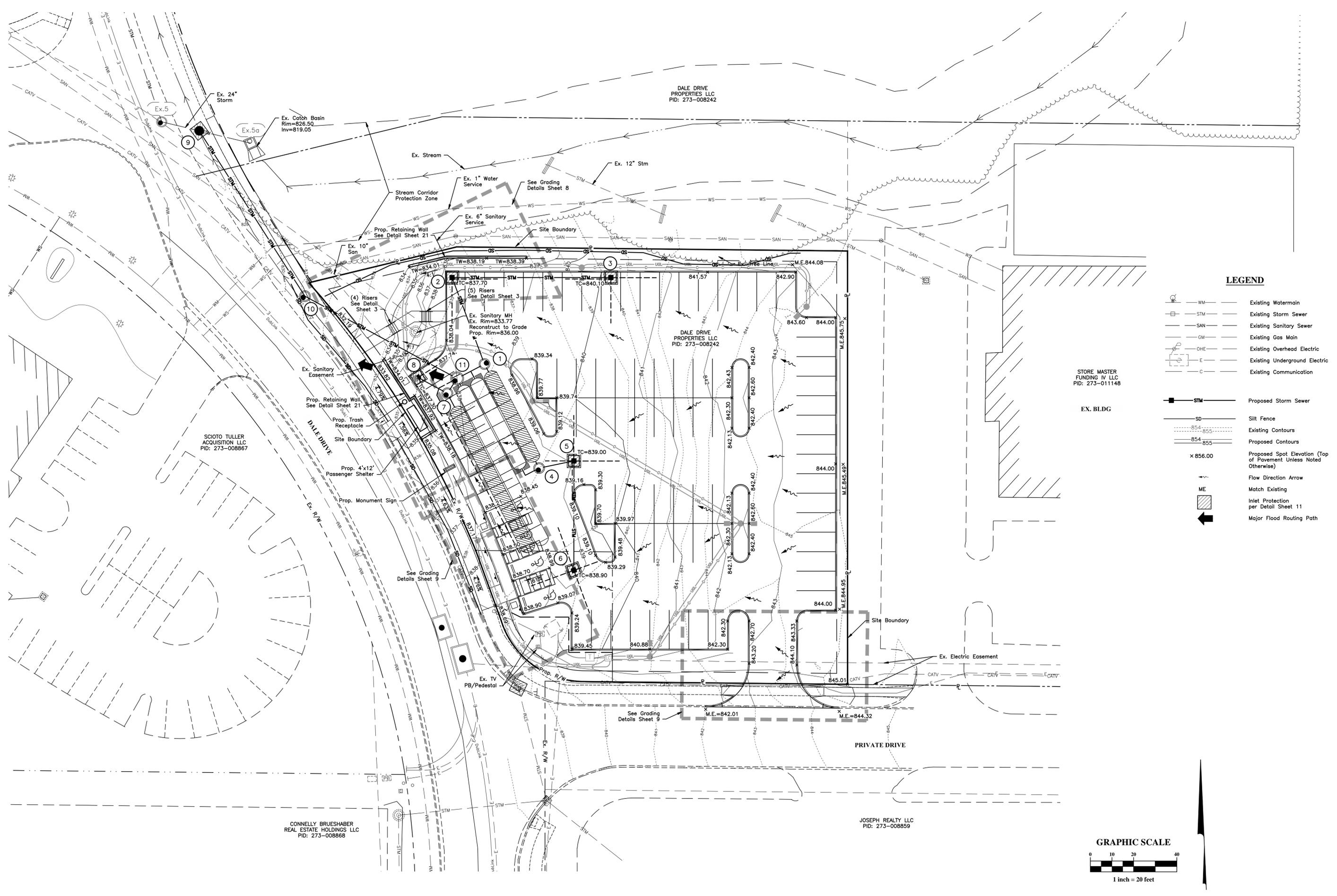
DATE
November 18, 2015

SCALE
1" = 20'

JOB NO.
2014-0588

SHEET
6/22

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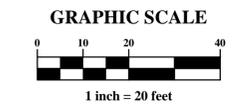


LEGEND

- Existing Watermain
- Existing Storm Sewer
- Existing Sanitary Sewer
- Existing Gas Main
- Existing Overhead Electric
- Existing Underground Electric
- Existing Communication
- Proposed Storm Sewer
- Silt Fence
- Existing Contours
- Proposed Contours
- Proposed Spot Elevation (Top of Pavement Unless Noted Otherwise)
- Flow Direction Arrow
- Match Existing
- Inlet Protection per Detail Sheet 11
- Major Flood Routing Path

STORE MASTER FUNDING IV LLC
PID: 273-011148

EX. BLDG



MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
PRIVATE SITE IMPROVEMENT PLAN
FOR
DALE DRIVE COTA PARK AND RIDE
GRADING PLAN



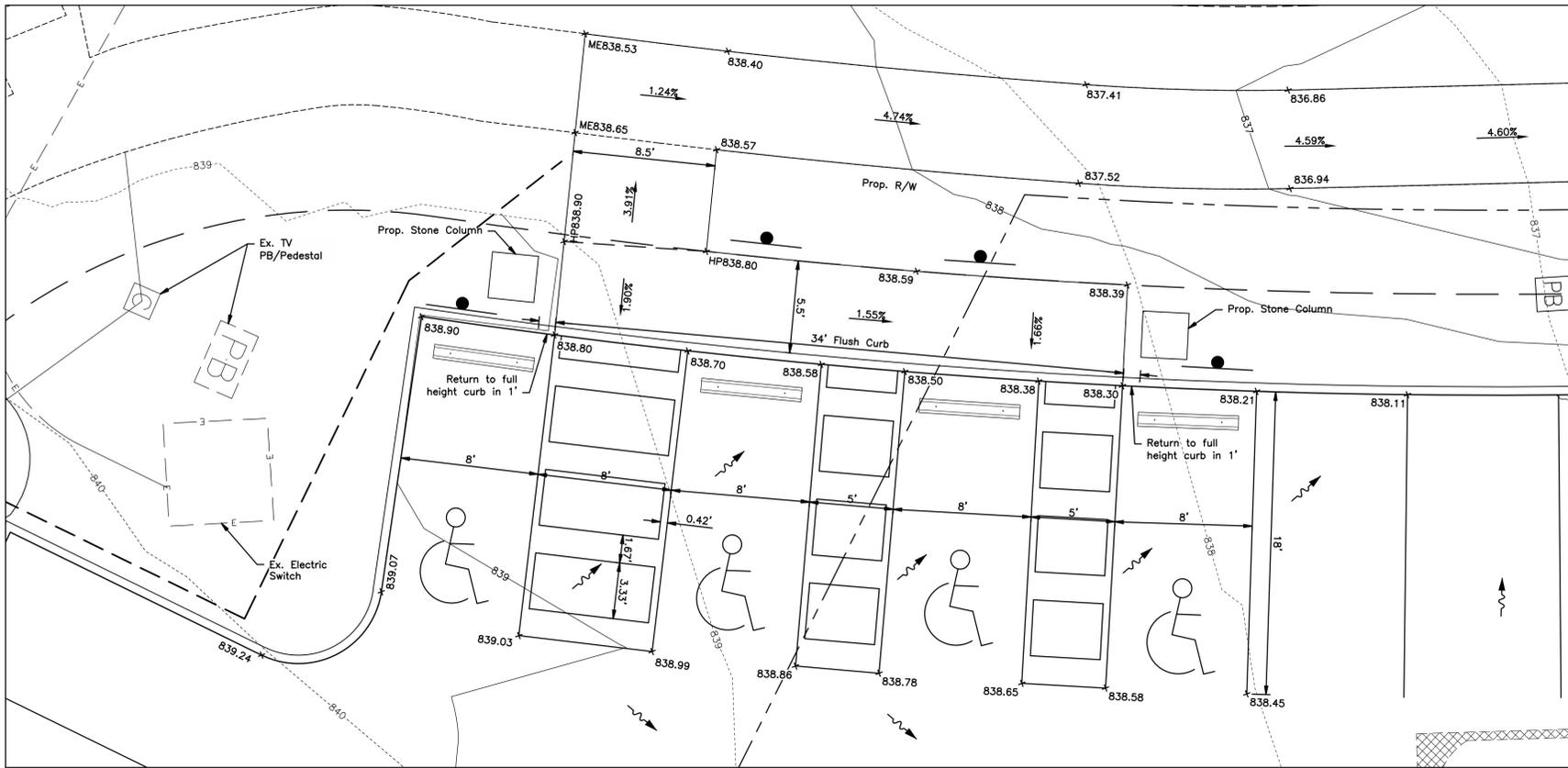
DATE
November 18, 2015

SCALE
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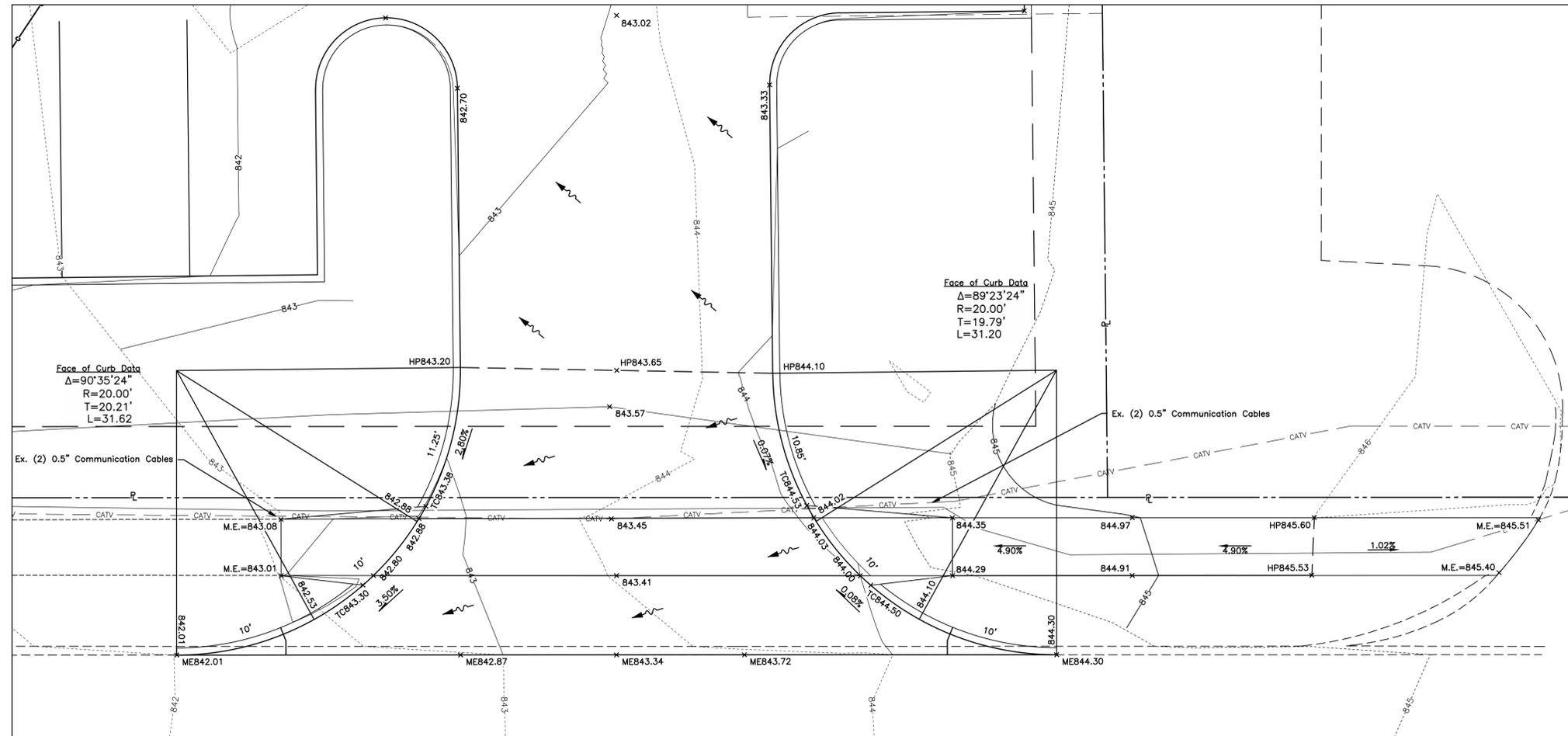
JOB NO.
2014-0588

SHEET
7/22

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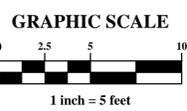
ADA PARKING & SIDEWALK GRADING DETAIL
Scale: 1"=5'



ENTRY DRIVE GRADING DETAIL
Scale: 1"=5'

LEGEND

- TC Top of Curb
- TW Top of Wall
- BW Bottom of Wall
- HP High Point
- ME Match Existing



MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
 PRIVATE SITE IMPROVEMENT PLAN
 FOR
DALE DRIVE COTA PARK AND RIDE
 GRADING DETAILS



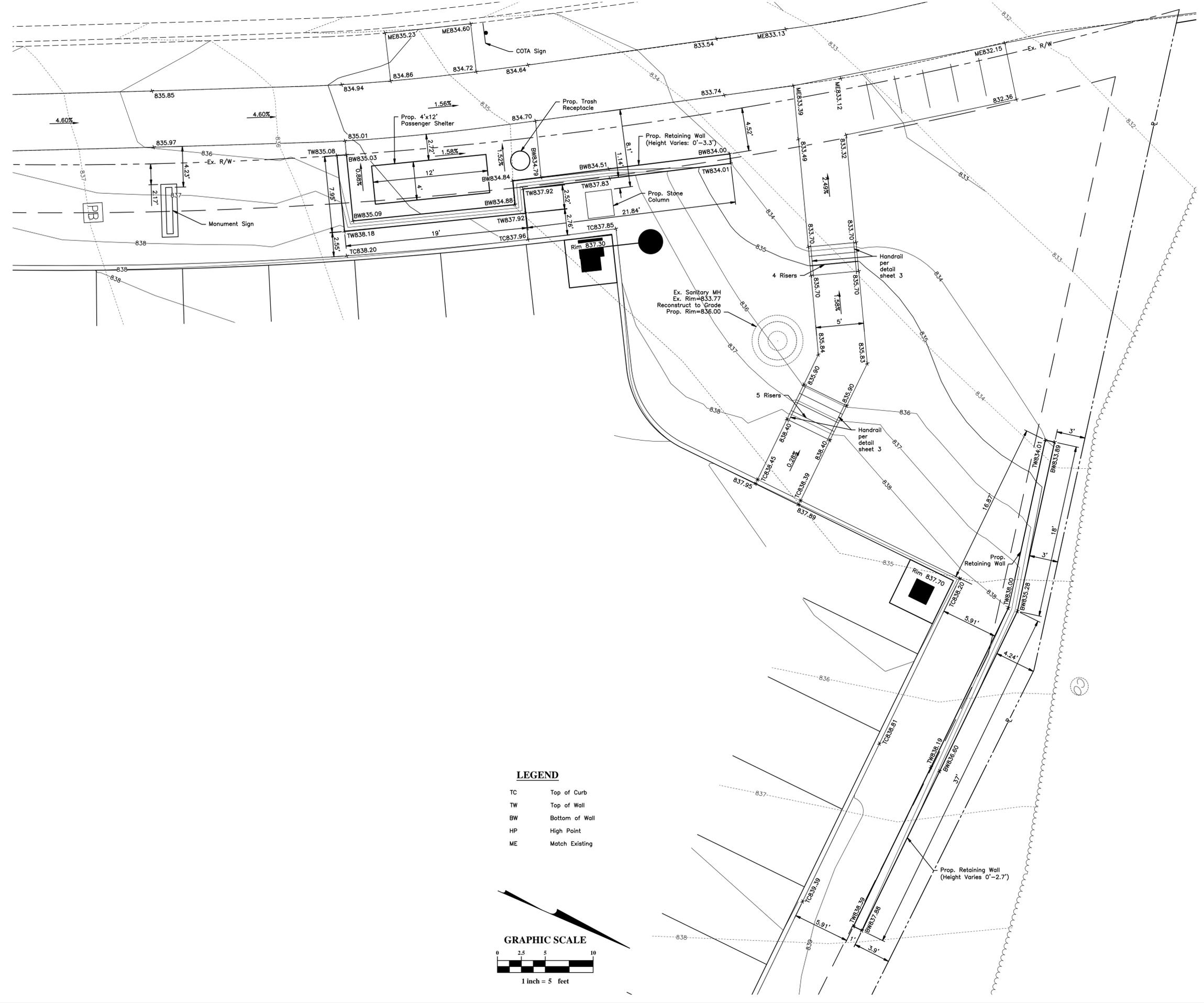
DATE
November 18, 2015

SCALE
1" = 5'

JOB NO.
2014-0588

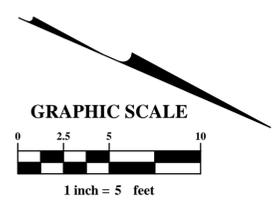
SHEET
8/22

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LEGEND

- TC Top of Curb
- TW Top of Wall
- BW Bottom of Wall
- HP High Point
- ME Match Existing



MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
 PRIVATE SITE IMPROVEMENT PLAN
 FOR
DALE DRIVE COTA PARK AND RIDE
 GRADING DETAILS



DATE
November 18, 2015

SCALE
1" = 5'

JOB NO.
2014-0588

SHEET
9/22



All fills are to be placed a minimum of 2.5' above the proposed storm sewer prior to the start of sewer construction per Item 203 of CMSC.

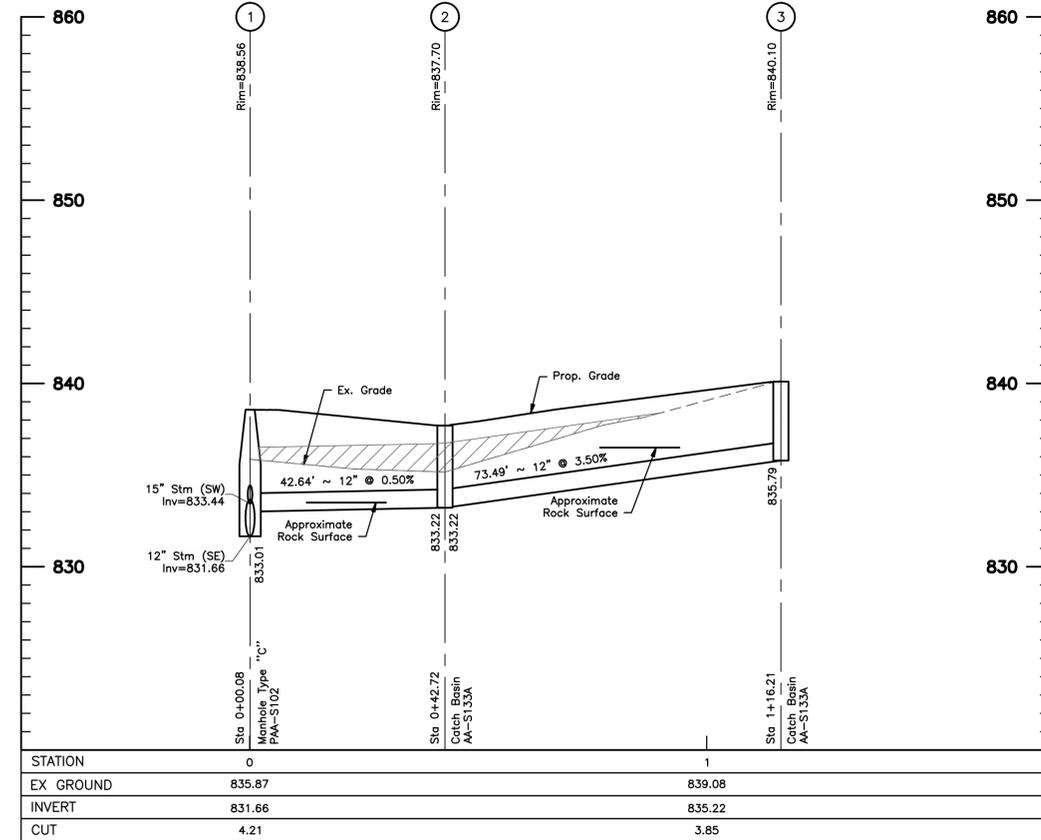
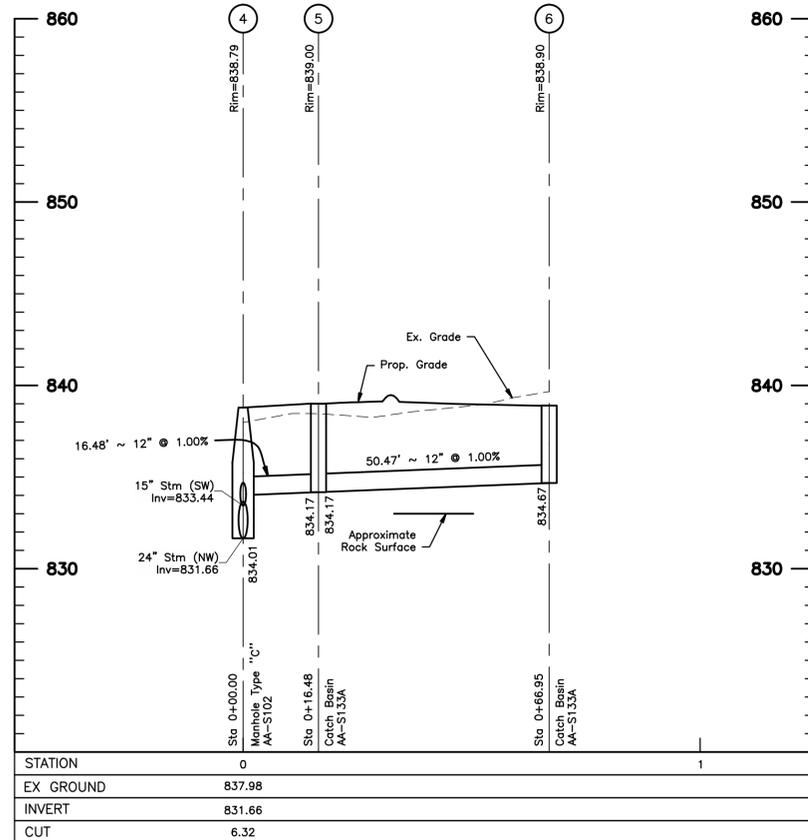
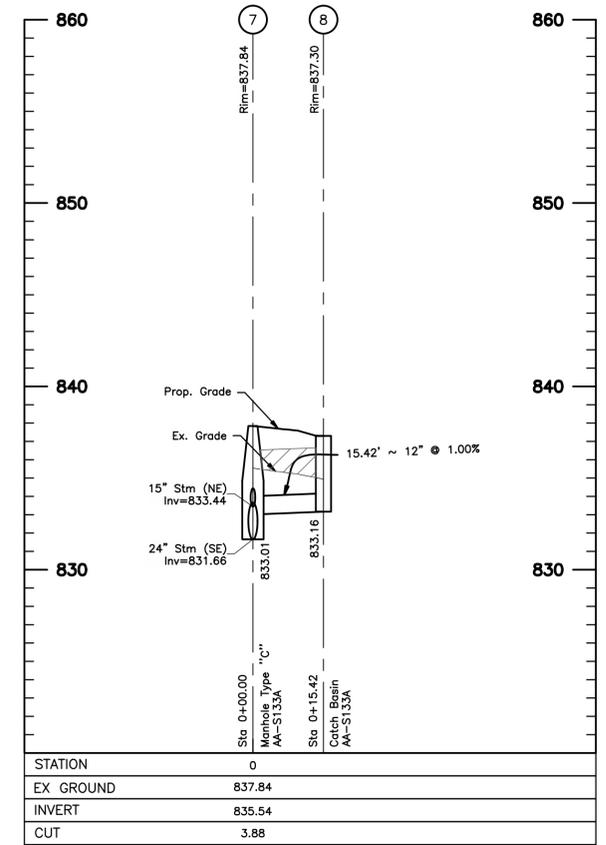
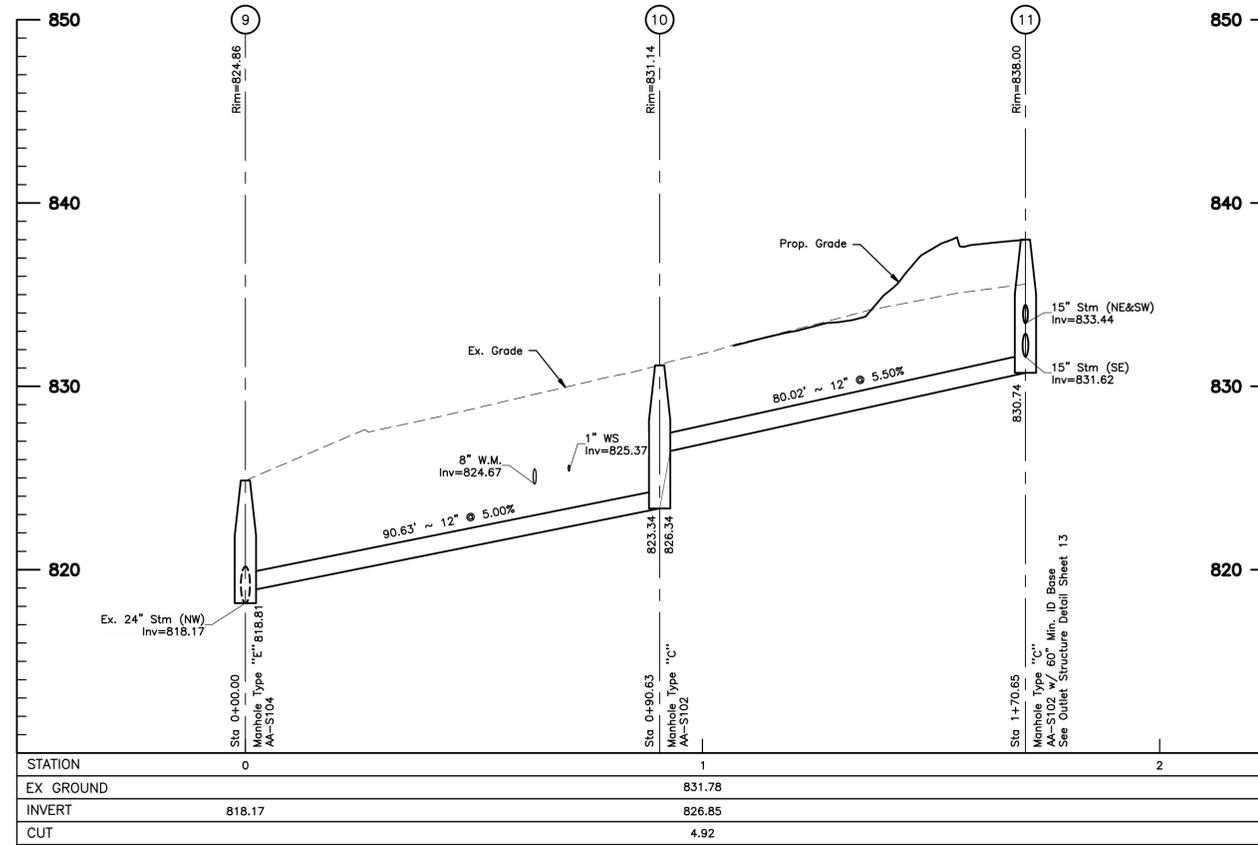
All backfill shall be compacted granular material per Item 912.

STORM SEWER NOTE:

Proposed storm sewer to be maintained as private utilities.

ROCK NOTE:

Approximate rock elevations are shown for reference only and are based on the Geotechnical Report prepared by Geotechnical Consultants Inc.



PROFILE
 Vert. Scale: 1" = 20'
 Horiz. Scale: 1" = 5'

MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
 PRIVATE SITE IMPROVEMENT PLAN
 FOR
DALE DRIVE COTA PARK AND RIDE
 STORM SEWER PROFILES



DATE
 November 18, 2015

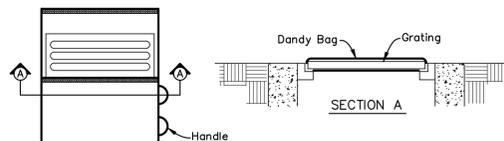
SCALE
 As Noted

JOB NO.
 2014-0588

SHEET
 10/22

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DANDY BAG SEDIMENT FILTER DETAIL



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.

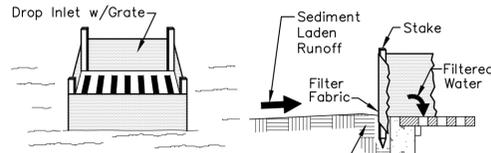
MAINTENANCE:

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

PROVIDE FOR THE FOLLOWING STRUCTURES:

Existing parking lot structures receiving flow from construction area.

FILTER FABRIC DROP INLET SEDIMENT FILTER DETAIL



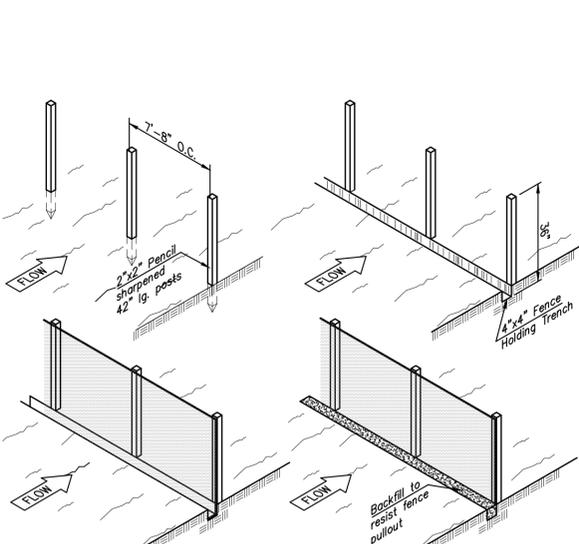
SPECIFIC APPLICATION:

To Prevent Piping
This method of inlet protection is applicable where the inlet drains a relatively flat area (slopes no greater than 5 percent) where sheet or overland flows (not exceeding 0.5 cfs) are typical. This method shall not apply to inlets receiving concentrated flows, such as in street and highway medians.

PROVIDE FOR THE FOLLOWING STRUCTURES:

1, 4, 5, 6, 7

SEDIMENT FENCE BARRIER DETAIL



SILT 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:

- The height of a silt fence shall not exceed 36-inches (higher fences may impound volumes of water sufficient to cause failure of the structure).
- 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.
- 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" long. When extra strength fabric is used without the wire support fence, post spacing shall not exceed 6 feet.
- A trench shall be excavated approximately 4-inches wide and 6 inches deep along the line of posts and upslope from the barrier.
- 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.
- 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.
- 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.
- The trench shall be backfilled and soil compacted over the filter fabric. Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.
- Silt fences and filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.
- 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:

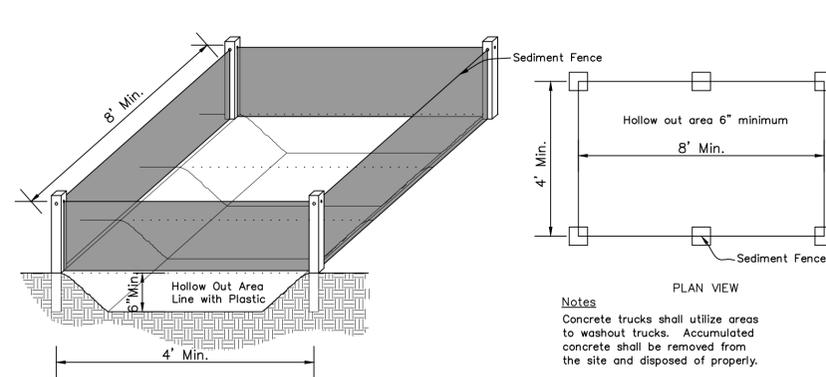
Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly.

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.

FABRIC PROPERTIES	VALUES	TEST METHOD
Grab Tensile Strength90 lb. MinimumASTM 1682
Mullen Burst Strength190 psi MinimumASTM 3786
Slurry Flow Rate0.3 gal./min./ft ² Maximum	
Equivalent Opening Size40-80U.S. Std. Sieve CW-02215
Ultraviolet Radiation Stability90% MinimumASTM-G-26

CONCRETE WASHOUT AREA

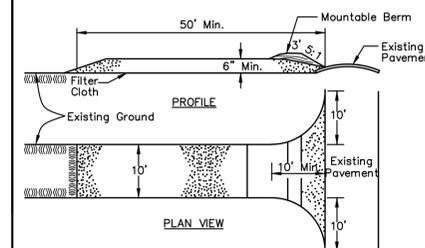


Notes

Concrete trucks shall utilize areas to washout trucks. Accumulated concrete shall be removed from the site and disposed of properly.

Contractor to determine location of Concrete Washout Area.

STABILIZED CONSTRUCTION ENTRANCE



CONSTRUCTION SPECIFICATIONS

- Stone Size - Use 2 inch stone, or reclaimed or recycled concrete equivalent.
- Length - As required.
- Thickness - Not less than six (6) inches.
- Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
- Filter Cloth - will be placed over the entire area prior to placing of stone.
- Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
- Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public right-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
- Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public right-of-ways. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
- Periodic inspection and needed maintenance shall be provided after each rain.

EROSION & SEDIMENT CONTROL NARRATIVE

Plan Engineer: Evans, Mechwart, Hambleton & Tilton, Inc.
5500 New Albany Road
Columbus, OH 43054
Phone: (614) 775-4500
Fax: (614) 775-4800

Owner's Representative: City of Dublin
5800 Shier Rings Road
Dublin, OH 43016
Phone: (614) 410-4600

On-Site Contact: City of Dublin
5800 Shier Rings Road
Dublin, OH 43016
Phone: (614) 410-4600

CONTRACTOR RESPONSIBILITY: 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.

All Erosion & Sediment Control practices are subject to Field Modification at the direction of the City of Dublin and/or Ohio EPA.

Existing Site Conditions: The proposed development is located on approximately 0.9± acres within an existing site consisting of a mown grassy field with trees and shrubs surrounding the north and east sides. The existing topography of the site generally slopes from the east to the west.

Existing Site Drainage Condition: Stormwater run off generated by the site discharges to Dale Drive.

Proposed Site Drainage Condition: The stormwater runoff generated by the site under post-developed conditions will be collected in catch basins and piped to the existing storm sewer network built with the Dale Drive-Tuller Ridge Drive Connector.

Adjacent Areas: The site is located near Dale Drive and Dave Way.

Critical Areas: The most critical areas related to implementing the erosion and sediment control are the northern and eastern boundaries.

Stormwater Pollution Prevention Measures: Approximately 0.9± acres of land will be disturbed during the construction of this project. Stormwater pollution prevention will be accomplished through the implementation of the BMP's detailed on this sheet.

Sequence of Construction:

1. Install the tree protection fence and erosion control devices.
2. Relocate existing utilities, remove trees, and demolish pavement, walks and curbs.
3. Perform mass earthwork activities and begin building foundations. Install temporary seeding as needed.
4. Install storm sewer and other utilities.
5. Construct remainder of building.
6. Fine grade the site and install paving and landscape.
7. Once site is stabilized, remove tree protection and erosion control devices.

MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
PRIVATE SITE IMPROVEMENT PLAN
FOR
DALE DRIVE COTA PARK AND RIDE
EROSION CONTROL DETAILS



DATE
November 18, 2015

SCALE
1" = 40'

JOB NO.
2014-0588

SHEET
11/22

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	JOE BABCANEC 419-681-0459 JOE.BABCANEC@ADS-PIPE.COM
ADS SALES REP:	JOHN McGEORGE 614-578-1561 JOHN.McGEORGE@ADS-PIPE.COM
PROJECT NO:	116992



ADVANCED DRAINAGE SYSTEMS, INC.



COTA PARK & RIDE DUBLIN

DUBLIN, OH

STORMWATER CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH MC-3500 OR APPROVED EQUAL.
- CHAMBERS SHALL BE MADE FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
 - STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

- STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
- INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm) MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
- STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.

NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER Tired LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
PRIVATE SITE IMPROVEMENT PLAN
FOR
DALE DRIVE COTA PARK AND RIDE
STORMTECH DETAILS



DATE
November 18, 2015

SCALE
Not To Scale

JOB NO.
2014-0588

SHEET
12/22

PROPOSED ELEVATIONS

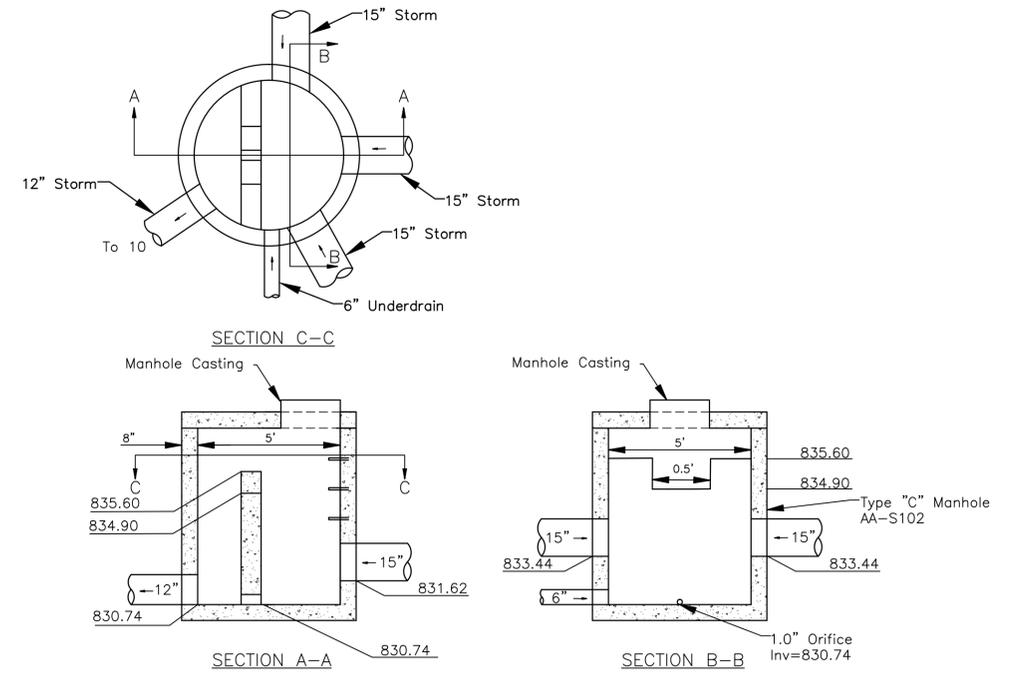
MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	843.24
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	837.74
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	837.24
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	837.24
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	837.24
TOP OF STONE:	836.24
TOP OF CHAMBER:	835.24
15" TOP MANIFOLD INVERT:	833.44
24" ISOLATOR ROW INVERT:	831.66
15" BOTTOM MANIFOLD INVERT:	831.62
BOTTOM OF CHAMBER:	831.49
UNDERDRAIN INVERT:	830.74
BOTTOM OF STONE:	830.74

PROPOSED LAYOUT

(33) STORMTECH MC-3500 CHAMBERS
 (8) STORMTECH MC-3500 END CAPS
 INSTALLED WITH 12" COVER STONE, 9" BASE STONE, 40% STONE VOID
INSTALLED SYSTEM VOLUME: 7,097 CF (PERIMETER STONE INCLUDED)
 AREA OF SYSTEM: 2,204 FT²
 PERIMETER OF SYSTEM: 237 FT

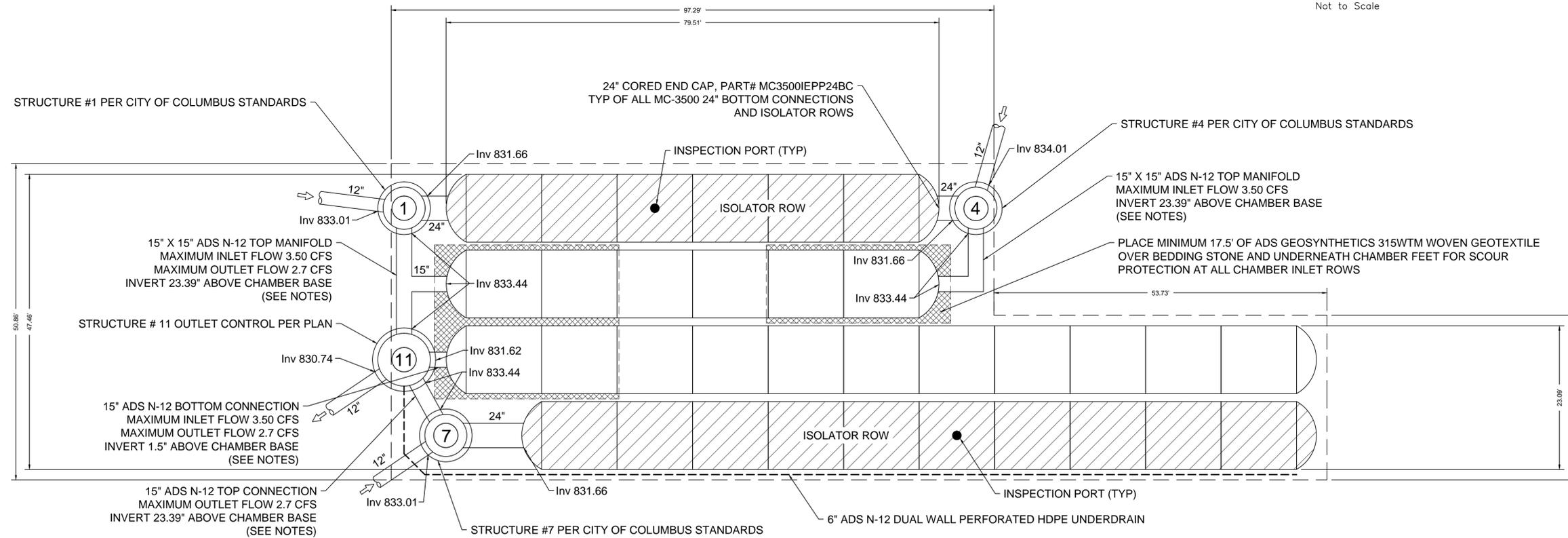
NOTES

- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.



STRUCTURE #11 DETAIL

Not to Scale



MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
 PRIVATE SITE IMPROVEMENT PLAN
 FOR
DALE DRIVE COTA PARK AND RIDE
 STORMTECH DETAILS



DATE
 November 18, 2015

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JOB NO.
 2014-0588

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 13/22

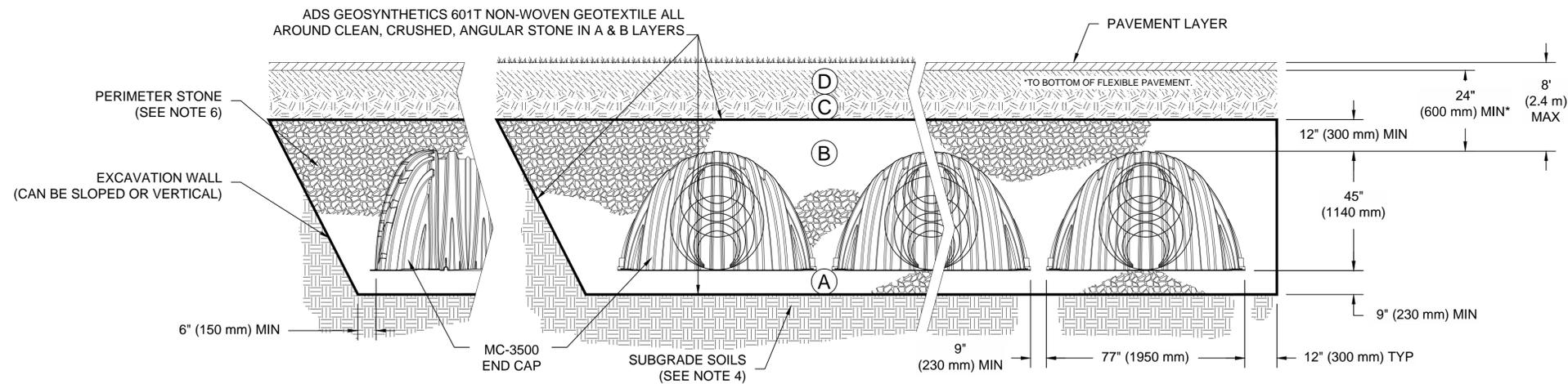
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ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	N/A	See Sheet 3 for pavement detail.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 ¹ 3, 4	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 ¹ 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2 3}

PLEASE NOTE:

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

- MC-3500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.

REVISIONS

MARK DATE DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
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 FOR
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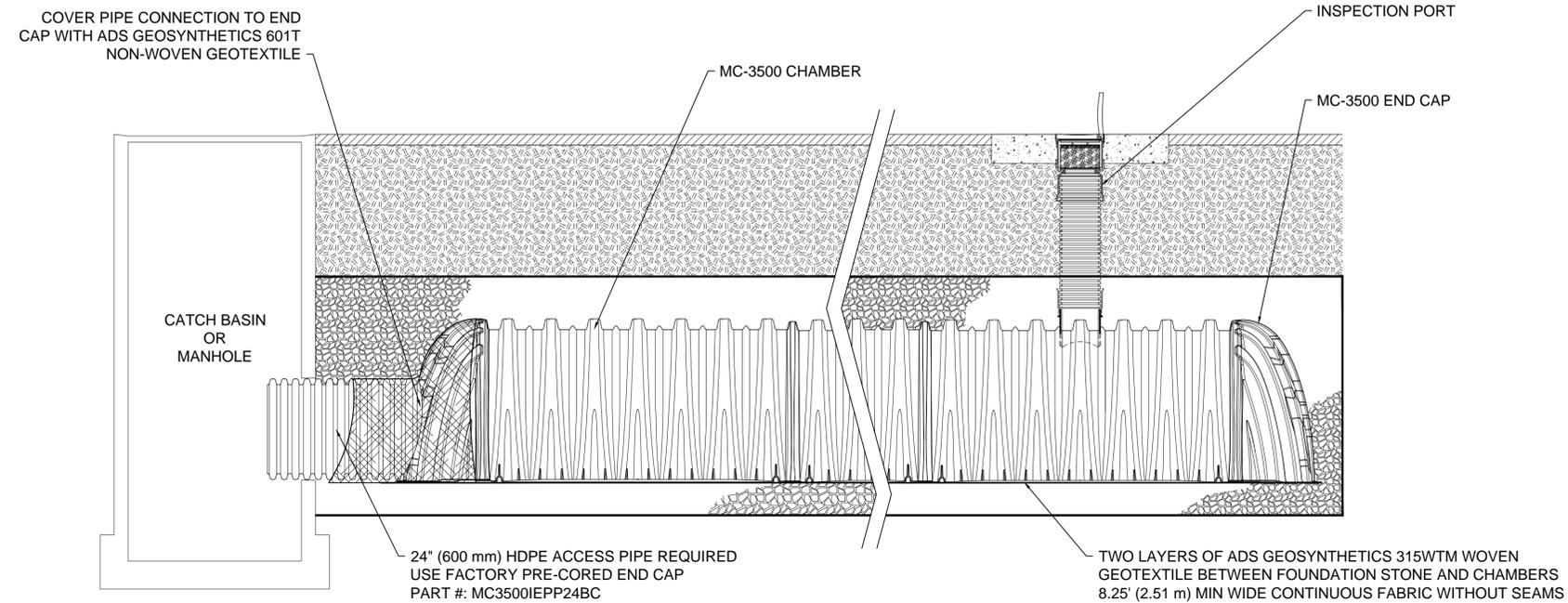
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2014-0588

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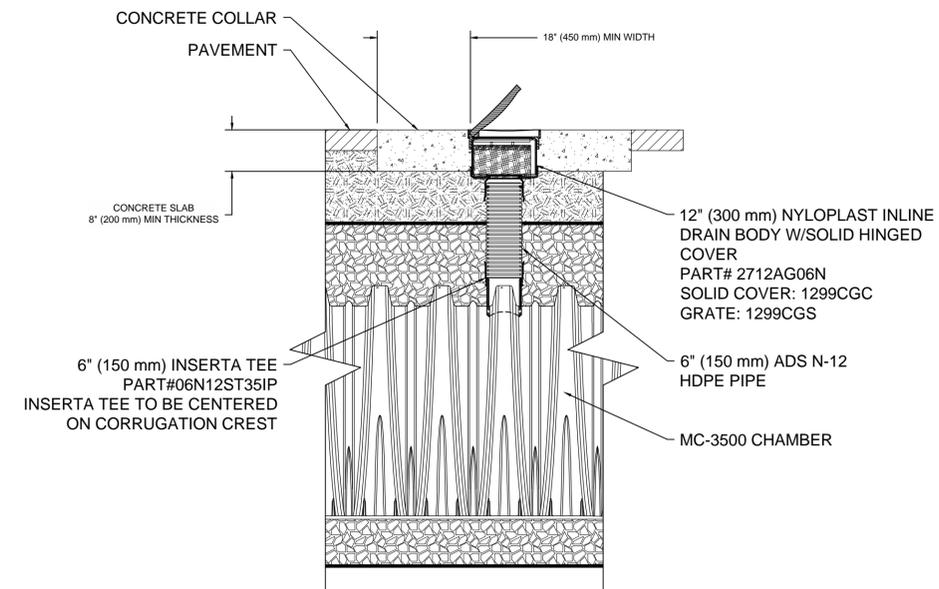
MC-3500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A.1. INSPECTION PORTS
 - A.2. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - B. ALL ISOLATOR ROWS
 - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
 - B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



MC-3500 6" INSPECTION PORT DETAIL
NTS

MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
PRIVATE SITE IMPROVEMENT PLAN
FOR
DALE DRIVE COTA PARK AND RIDE
STORMTECH DETAILS



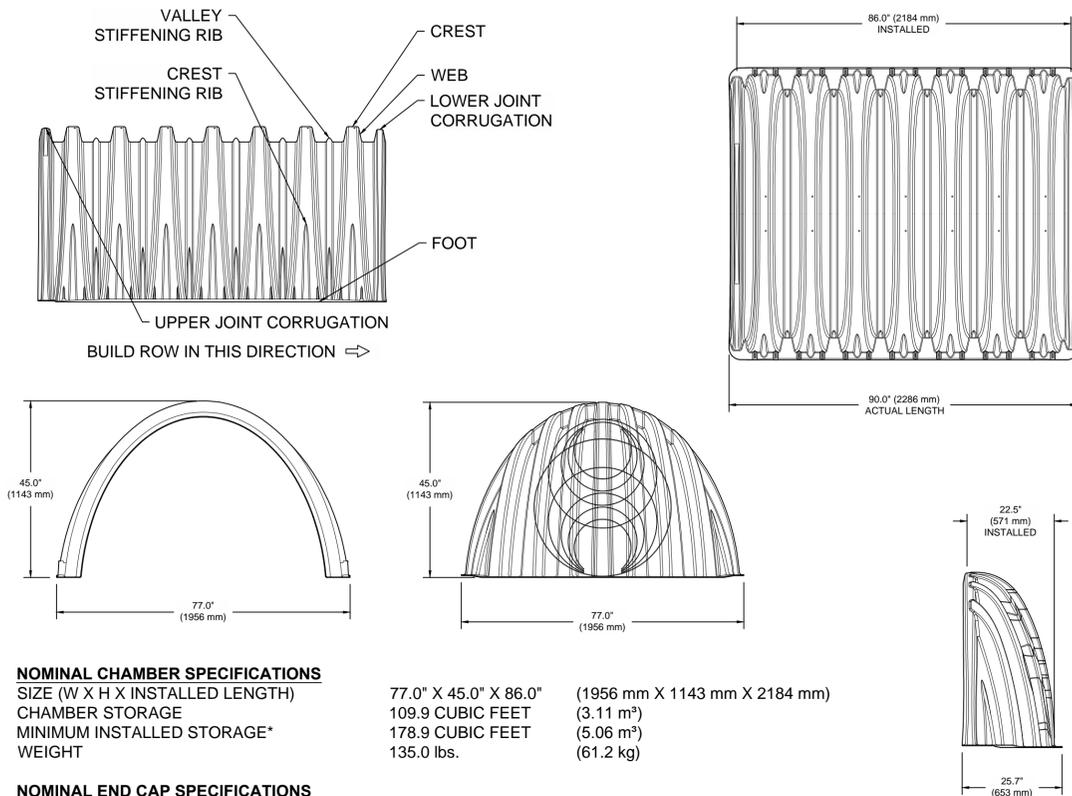
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NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m ³)
MINIMUM INSTALLED STORAGE*	178.9 CUBIC FEET	(5.06 m ³)
WEIGHT	135.0 lbs.	(61.2 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 22.5"	(1956 mm X 1143 mm X 571 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m ³)
MINIMUM INSTALLED STORAGE*	46.0 CUBIC FEET	(1.30 m ³)
WEIGHT	50.0 lbs.	(22.7 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

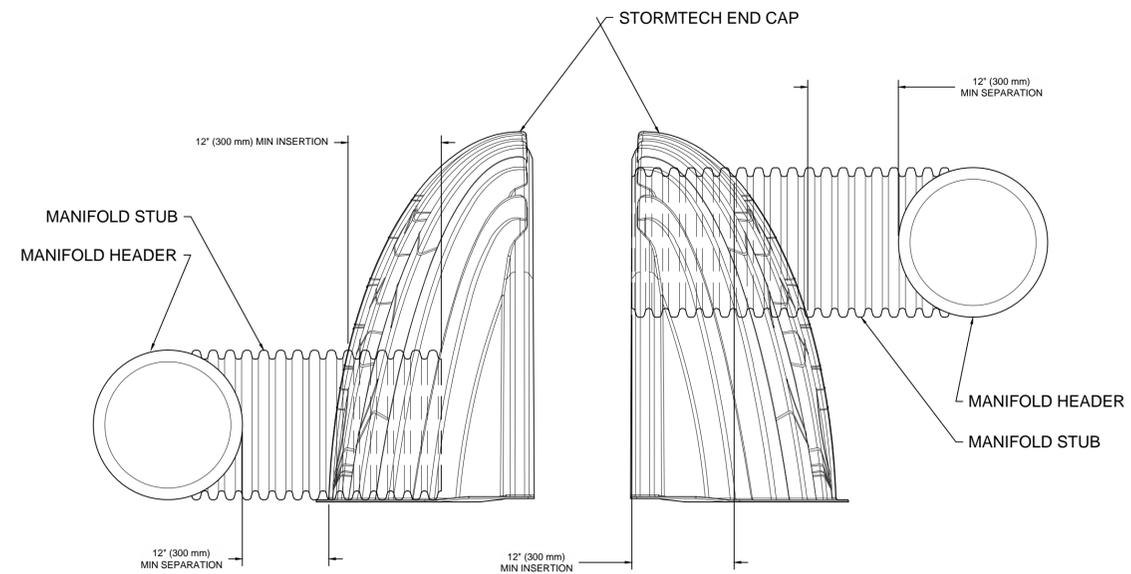
STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B	---	---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B	---	---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B	---	---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B	---	---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B	---	---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18BC	---	---	1.77" (45 mm)
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24BC	---	---	2.06" (52 mm)
MC3500IEPP30BC	30" (750 mm)	---	---

NOTE: ALL DIMENSIONS ARE NOMINAL

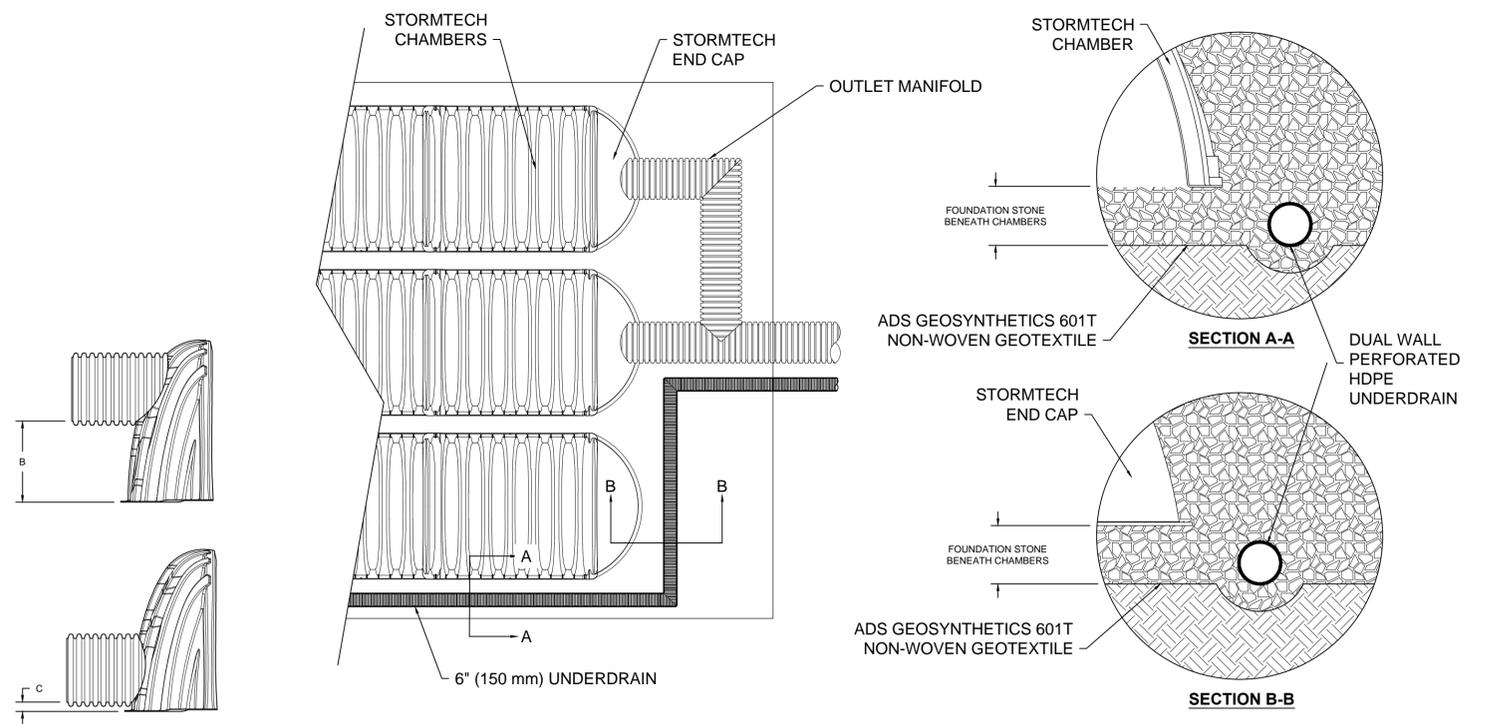
CUSTOM PRECURED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

MC-3500 TECHNICAL SPECIFICATION
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

MC-SERIES END CAP INSERTION DETAIL
NTS



TYPICAL UNDERDRAIN DETAIL
NTS

MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
PRIVATE SITE IMPROVEMENT PLAN
FOR
DALE DRIVE COTA PARK AND RIDE
STORMTECH DETAILS



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STREET LIGHTING NOTES

PLAN AND SPECIFICATION COMPLIANCE

These specifications, together with the accompanying plans, are to describe the type, size, and location of the products and material to be provided and installed under various bid items related to Street Lighting. The Contractor shall furnish and install Street Lighting items and related material in compliance with these plans and specifications, as well as the current Ohio Department of Transportation Construction and Material Specifications, and the City of Dublin Standard Detail drawings for Street Lighting. Street Lighting plans shall meet or exceed the standards specified. In case of a conflicting specification statement, the specification document hierarchy shall be in the order listed from (A) highest to (C) lowest.

- (A) Specifications listed in this plan
- (B) City of Dublin Street Lighting Standard Drawings and Specifications
- (C) ODOT Construction and Material Specifications

ITEM 625 - LIGHT POLE, SINGLE LUMINAIRE, AS PER PLAN

Light pole shall conform with City of Dublin Standard Drawing SL-03, Type 1 and the detail shown on this sheet. The pole shall be furnished with an approved handhole, 12' from grade to center of handhole, to allow for access to interior surveillance camera cables. The Contractor shall coordinate with the pole manufacturer and COTA to ensure that the pole can accommodate a future pole mounted, COTA approved surveillance camera and mounting hardware. Light pole structures shall be designed and constructed by the supplier to support the loads that the plan requires the Contractor to install. The use of standard design designations and any details provided in this plan are intended to promote uniformity of design and are not warranted to be structurally adequate. The Contractor shall verify the anchor bolt circle, anchor bolt diameter, and orientation pattern with the light pole manufacturer. The manufacturer shall be responsible for verifying the pole design, and shall prepare shop drawings and structural design calculations stamped by an Ohio Professional Engineer. The shop drawings and calculations shall be submitted to the City of Dublin for approval prior to fabrication.

Payment shall be as per Item 625.

ITEM 625 - LIGHT POLE, TWIN LUMINAIRE, AS PER PLAN

Light pole shall conform with City of Dublin Standard Drawing SL-03, Type 1 and the detail shown on this sheet. The pole shall be furnished with an approved handhole, 12' from grade to center of handhole, to allow for access to interior surveillance camera cables. The Contractor shall coordinate with the pole manufacturer and COTA to ensure that the pole can accommodate a future pole mounted, COTA approved surveillance camera. Light pole structures shall be designed and constructed by the supplier to support the loads that the plan requires the Contractor to install, including two luminaires and two luminaire brackets. The use of standard design designations and any details provided in this plan are intended to promote uniformity of design and are not warranted to be structurally adequate. The Contractor shall verify the anchor bolt circle, anchor bolt diameter, and orientation pattern with the light pole manufacturer. The manufacturer shall be responsible for verifying the pole design, and shall prepare shop drawings and structural design calculations stamped by an Ohio Professional Engineer. The shop drawings and calculations shall be submitted to the City of Dublin for approval prior to fabrication.

Payment shall be as per Item 625.

ITEM 625 - POWER SERVICE, AS PER PLAN

Power Service shall be as per Item 625, the power service schematic diagram shown on this sheet, and the City of Dublin Standard Drawing SL-13. Coordinate with AEP.

Additionally, a CT cabinet is to be furnished and installed by Contractor and shall be of substantial strength with corrosion protection, such as painted galvanized steel NEMA 3R. CT cabinet shall be painted dark bronze to match the light poles. It shall be fitted with hinged door(s) and shall have provisions for installing a company padlock and seal. The inside back of the cabinet shall be entirely covered by 3/4" treated plywood for mounting the current transformers or suitable mounting brackets may be provided. A grounding lug shall be provided to ground the cabinet.

The white dot polarity mark on the CT shall be toward the energy source or line side.

Contractor shall mount the meter socket next to the CT cabinet and install 1 1/4" conduit between the two.

The CT cabinet and meter socket shall be grounded. The meter socket and CT cabinet shall be bonded through a separate equipment-grounding conductor connected to the grounded service conductor (usually the neutral).

AEP will install the secondary wiring between the CT and the meter socket.

The conductor splice in the CT cabinet shall be made with bolted connections furnished and installed by the Contractor. The conductor shall pass through the CTs without a splice.

Provide an Arc Flash Hazard Warning sign on the outside front door of the enclosure in accordance with the current National Electrical Code paragraph 110.16.

Provide an Available Fault Current sign on the outside of the front door of the service disconnect enclosure in accordance with the current National Electrical Code paragraph 110.24.

Provide locking tabs on 10A circuit breakers capable for locking in the open position.

All enclosures and mounting hardware shall be painted dark bronze to match the color of the standard Dublin light poles. A paint chip shall be submitted to the City of Dublin prior to painting for approval.

Payment shall be as per Item 625.

ITEM SPECIAL, SECURITY CAMERA RELOCATED, AS PER PLAN

The Contractor shall coordinate with COTA to remove and relocate the existing security cameras from the temporary COTA site on Village Parkway, Dublin, Ohio. Security cameras shall be relocated to the designated light poles shown within these plans.

Prior to performing any removal, the Contractor shall perform an inspection with COTA personnel to identify any existing damages or defects to the security cameras and to confirm that they are in full working order. Any damages identified after the relocation process will be assumed to have been caused by the Contractor, and it shall be the Contractor's responsibility to replace/repair the camera.

All camera mounting hardware shall be considered incidental to this item of work and shall be coated to match the street light pole.

Payment shall be made at the unit bid price for each relocated security camera after all cameras have been tested and accepted by COTA.

ITEM SPECIAL, SERVICE TO SECURITY CAMERA SYSTEM, AS PER PLAN

This item shall consist of designing and providing a complete electrical power and communication network for the security camera system. The installation work shall include disconnect switch, panel, conduits, conduit riser, conduit grounding, mountings, fittings, junction boxes, camera housings, device enclosures, wired and wireless transmission devices, pole mounting systems, electric and data cables of all sizes (including 10 percent spares in each control run), and all incidentals necessary to complete, ready for use, the camera system as outlined in the COTA contract specifications. Any camera system enclosures shall be sized appropriately to include all of the contents required by the specifications.

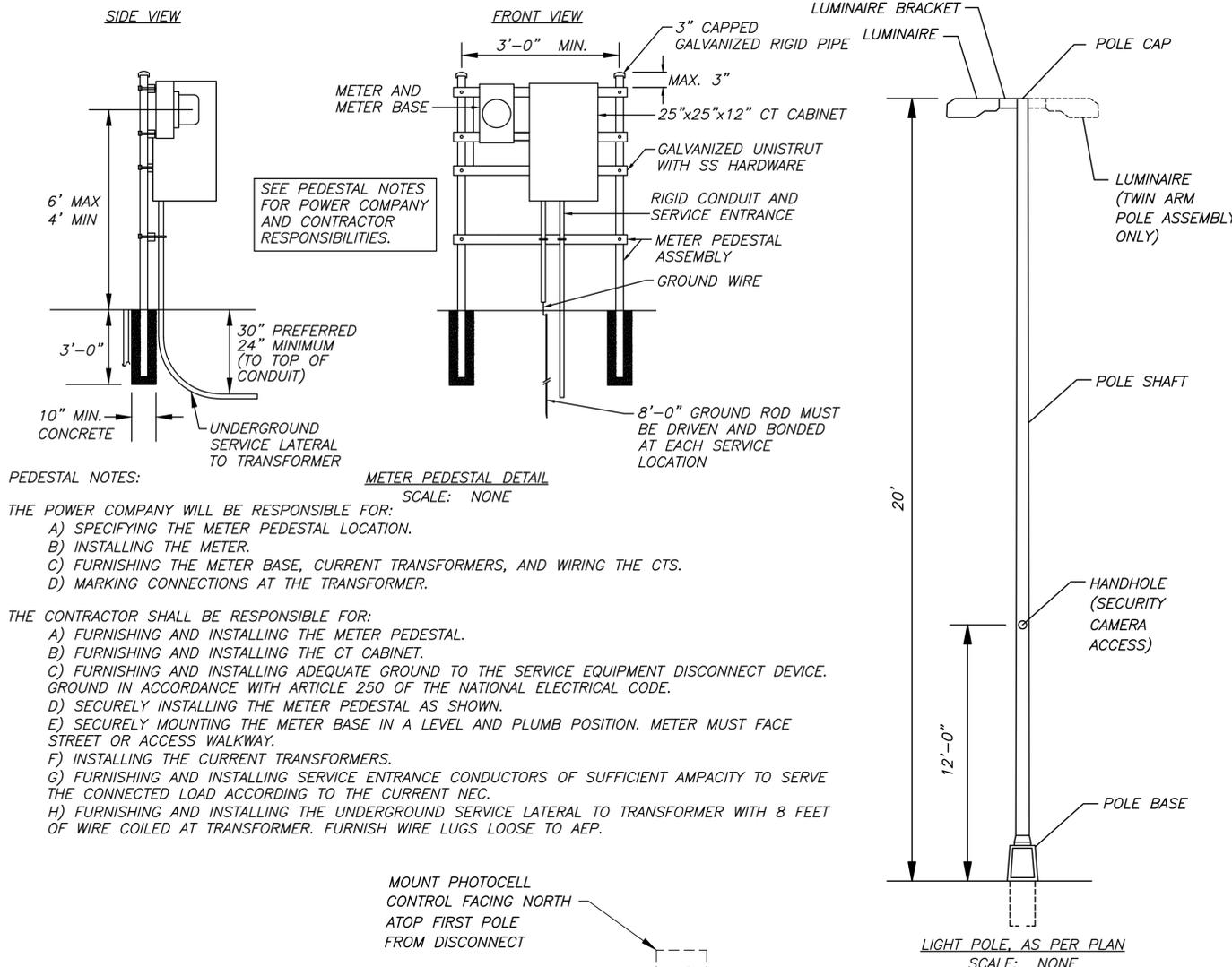
The Contractor shall closely coordinate with COTA to ensure that the installation meets the contract specifications and COTA preferences.

The price bid for Item Special "Service to Security Camera System, As Per Plan" shall include payment for all equipment, labor, and materials necessary to complete the work as specified. Component parts not specifically mentioned, but required for satisfactory operation of this item, shall be furnished and considered paid for as part of this item.

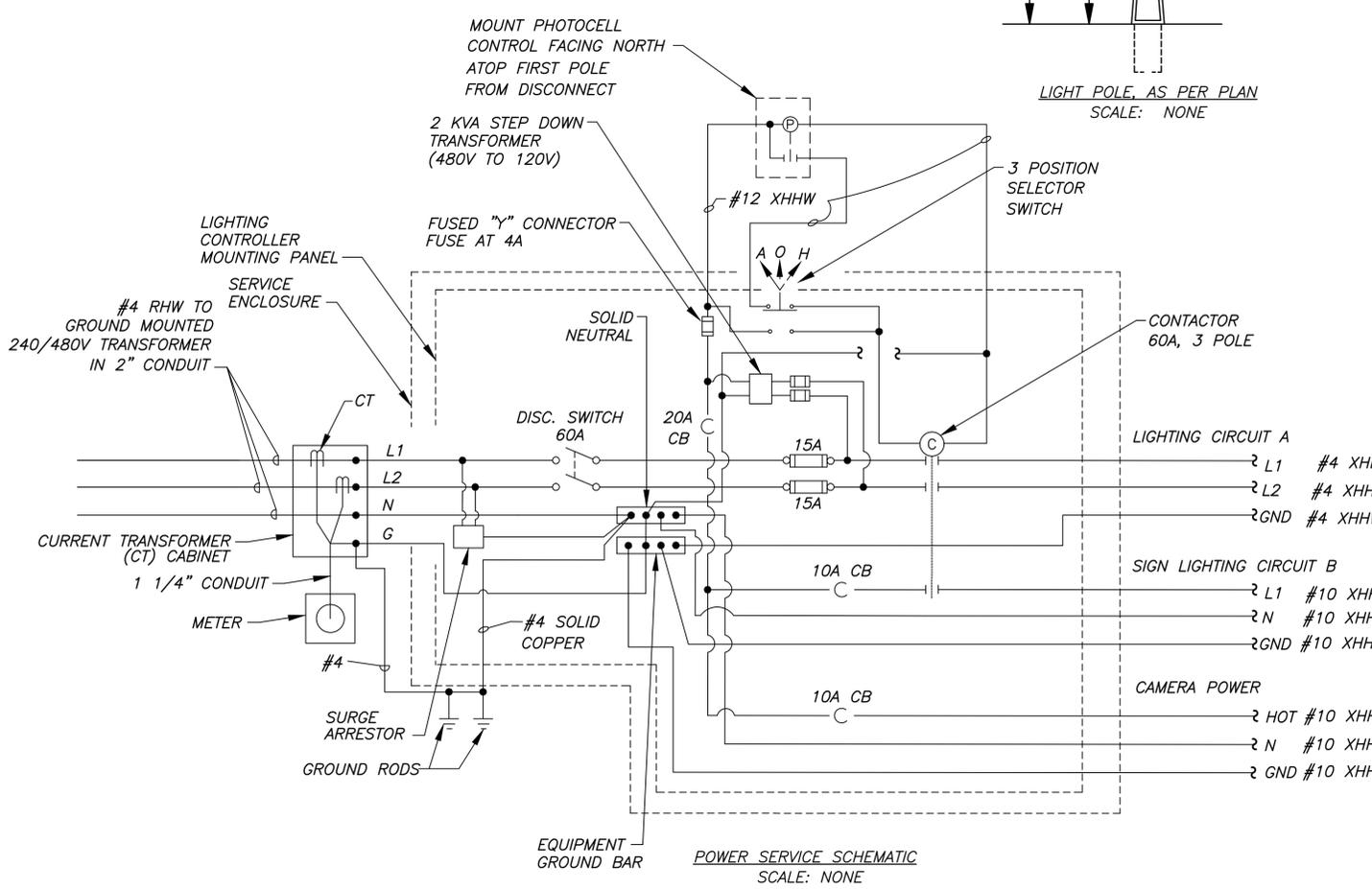
GROUNDING AND BONDING

The requirements of the State of Ohio Department of Transportation Construction and Material Specifications (C&MS) and the HL series of Standard Construction Drawings are modified as follows:

1. All metallic parts containing electrical conductors shall be permanently joined to form an Effective Ground Fault Current Path back to the grounded conductor in the power service disconnect switch.
 - a. Provide an equipment grounding conductor in metallic conduits (725.04) in addition to the conductors specified and bond the conduit to this grounding conductor.
 - b. When an equipment grounding conductor is required in plastic conduit (725.05), the installation shall include a separate equipment grounding conductor in addition to the conductors specified.
 - c. Metal pull box lids shall be bonded by attachment of the equipment grounding conductor to the frame diagonal as provided on HL-30.11.
2. Conduits
 - a. The 725.04 conduit shall have grounding bushings installed at all termination points. The bushing material shall be compatible with galvanized steel conduit and the grounding lug material shall be compatible for use with copper wire. Threaded or compression type bushings may be used.
 - b. The 725.05 conduit shall have the inside and outside diameters of the conduit deburred at all termination points.
 - c. Both ends of metallic conduit shall be bonded to the equipment grounding conductor.
 - d. Metallic conduit may be bonded to metallic boxes through the use of conduit fittings UL approved for this type of connection, with the box bonded to the equipment grounding conductor.
3. Wire for Grounding and Bonding
 - a. Use insulated, copper wire for the equipment grounding conductor. Bonding jumpers in boxes and enclosures may be bare or insulated copper wire. Wire size shall be as follows: The insulation shall be green or green with yellow stripe(s). For 4 AWG or larger, insulation may also be black with green tape/labels installed at all access points.
 - b. In a highway lighting system, the equipment grounding conductor shall be the same wire size as the duct cable or distribution cable circuit conductors, with the minimum conductor size of 4 AWG. Bonding jumpers will be minimum size 4 AWG.
4. Ground Rod
 - a. A 3/4 inch Schedule 40 PVC conduit will be used in foundations and concrete walls for the grounding conductor (ground wire) raceway to the ground rod. Should metallic conduit be used, both ends of the conduit shall be bonded to the grounding conductor.
 - b. The typical grounding conductor (ground wire) shall be 4 AWG insulated, copper.
5. Power Service and Disconnect Switch
 - a. At the power service location, the grounding conductor (ground wire) from the disconnect switch neutral (AC-) bar to the ground rod shall be a continuous, unspliced conductor. If spliced, it shall be an exothermic weld butt splice.
 - b. The service neutral shall only be connected to ground at the main power service disconnect switch.



- PEDESTAL NOTES:**
- THE POWER COMPANY WILL BE RESPONSIBLE FOR:
- A) SPECIFYING THE METER PEDESTAL LOCATION.
 - B) INSTALLING THE METER.
 - C) FURNISHING THE METER BASE, CURRENT TRANSFORMERS, AND WIRING THE CTS.
 - D) MARKING CONNECTIONS AT THE TRANSFORMER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR:
- A) FURNISHING AND INSTALLING THE METER PEDESTAL.
 - B) FURNISHING AND INSTALLING THE CT CABINET.
 - C) FURNISHING AND INSTALLING ADEQUATE GROUND TO THE SERVICE EQUIPMENT DISCONNECT DEVICE. GROUND IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
 - D) SECURELY INSTALLING THE METER PEDESTAL AS SHOWN.
 - E) SECURELY MOUNTING THE METER BASE IN A LEVEL AND PLUMB POSITION. METER MUST FACE STREET OR ACCESS WALKWAY.
 - F) INSTALLING THE CURRENT TRANSFORMERS.
 - G) FURNISHING AND INSTALLING SERVICE ENTRANCE CONDUCTORS OF SUFFICIENT AMPACITY TO SERVE THE CONNECTED LOAD ACCORDING TO THE CURRENT NEC.
 - H) FURNISHING AND INSTALLING THE UNDERGROUND SERVICE LATERAL TO TRANSFORMER WITH 8 FEET OF WIRE COILED AT TRANSFORMER. FURNISH WIRE LUGS LOOSE TO AEP.



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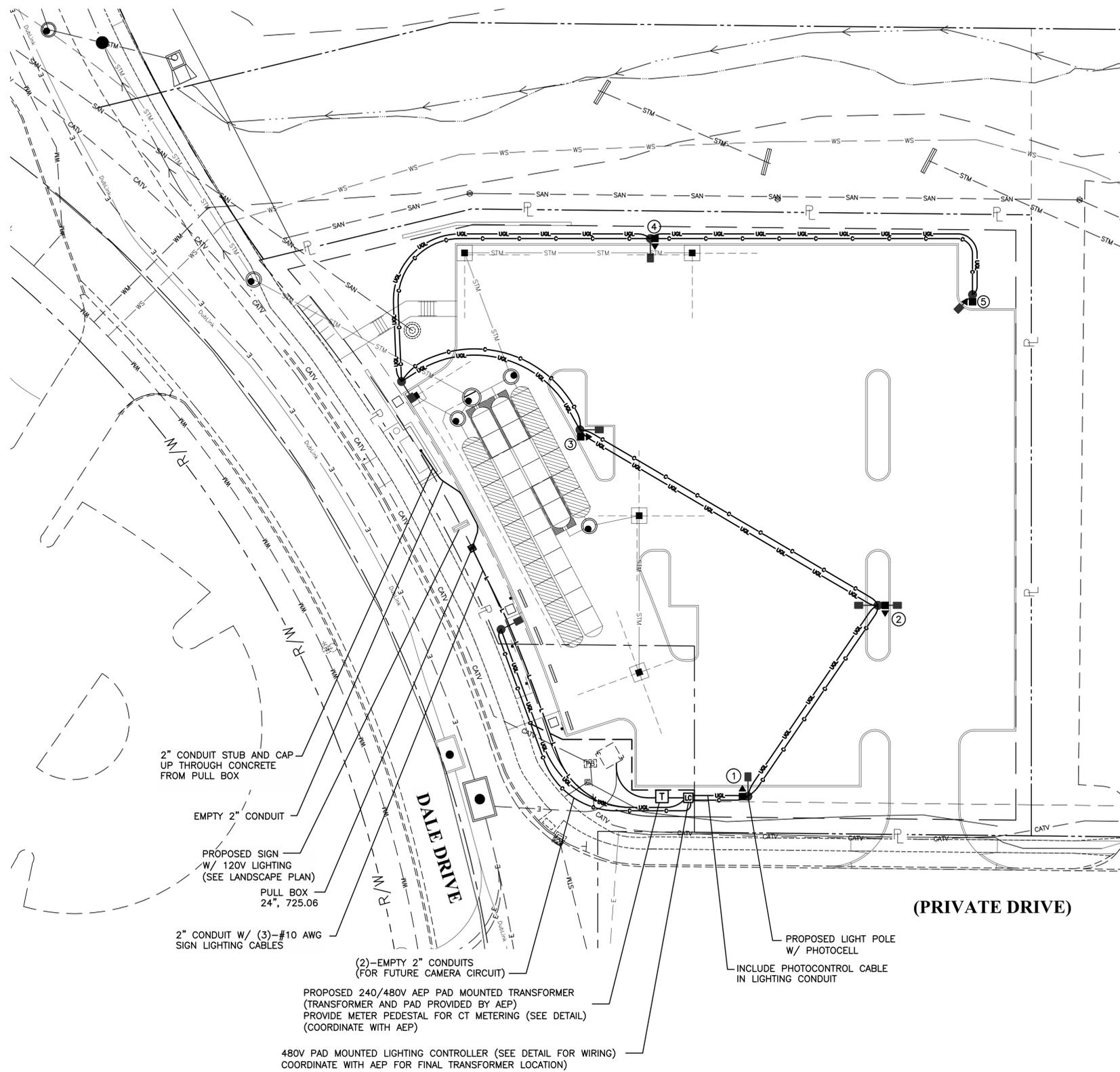


CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
PRIVATE SITE IMPROVEMENT PLAN
FOR
DALE DRIVE COTA PARK AND RIDE
LIGHTING NOTES AND DETAILS



DATE	November 18, 2015
SCALE	NONE
JOB NO.	2014-0588
SHEET	17/22

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2" CONDUIT STUB AND CAP
 UP THROUGH CONCRETE
 FROM PULL BOX

 EMPTY 2" CONDUIT

 PROPOSED SIGN
 W/ 120V LIGHTING
 (SEE LANDSCAPE PLAN)

 PULL BOX
 24", 725.06

 2" CONDUIT W/ (3)-#10 AWG
 SIGN LIGHTING CABLES

(2)-EMPTY 2" CONDUITS
 (FOR FUTURE CAMERA CIRCUIT)

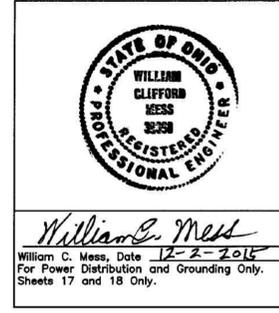
 PROPOSED 240/480V AEP PAD MOUNTED TRANSFORMER
 (TRANSFORMER AND PAD PROVIDED BY AEP)
 PROVIDE METER PEDESTAL FOR CT METERING (SEE DETAIL)
 (COORDINATE WITH AEP)

480V PAD MOUNTED LIGHTING CONTROLLER (SEE DETAIL FOR WIRING)
 COORDINATE WITH AEP FOR FINAL TRANSFORMER LOCATION)

PROPOSED LIGHT POLE
 W/ PHOTOCELL

 INCLUDE PHOTOCONTROL CABLE
 IN LIGHTING CONDUIT

(PRIVATE DRIVE)



LIGHTING ESTIMATE OF QUANTITIES			
ITEM NO.	QTY	UNIT	ITEM DESCRIPTION
625	14	EA	Connector Kit, Type II (SL-02)
625	7	EA	Connector Kit, Type III (SL-02)
625	8	EA	Luminaire, ARE-EDG-3M-DA-08-E-UL-BZ-525-40K (SL-01)
625	6	EA	Light Pole, Single Luminaire, As Per Plan (SL-03)
625	1	EA	Light Pole, Double Luminaire, As Per Plan (SL-03)
625	7	EA	Light Pole Foundation (SL-04)
625	2064	LF	No. 4 AWG, 600 Volt Distribution Cable
625	2631	LF	No. 10 AWG, 600 Volt Distribution Cable
625	525	LF	No. 10 AWG, 600 Volt Pole and Bracket Cable
625	1917	LF	Conduit, 2", 725.051 (SL-05)
625	873	LF	Conduit, 3", 725.051, Sch. 80 (SL-05)
625	1338	LF	Trench (SL-05)
625	1338	LF	Plastic Caution Tape (SL-05)
625	7	EA	Ground Rod
625	1	EA	Power Service, As Per Plan (SL-13)
625	7	EA	Cadweld Connection
625	1	LUMP	High Voltage Test
SPECIAL	1	EA	Service to Security Camera System, As Per Plan
SPECIAL	5	EA	Security Camera Relocated, As Per Plan

LEGEND	
	LIGHT POLE, SINGLE LUMINAIRE, AS PER PLAN, T-BASE, AND FOUNDATION (SL-02, SL-03, SL-04) W/ (1)-LUMINAIRE (SL-01), ARE-EDG-3M-DA-08-E-UL-BZ-525-40K
	LIGHT POLE, DOUBLE LUMINAIRE, AS PER PLAN, T-BASE, AND FOUNDATION (SL-02, SL-03, SL-04) W/ (2)-LUMINAIRES (SL-01), ARE-EDG-3M-DA-08-E-UL-BZ-525-40K
	2" SCH 40 CONDUIT W/ (3)-#4 AWG, 600V LIGHTING CABLES IN TRENCH (INCLUDE 3" SCH. 80 SLEEVE FOR CONDUIT UNDER PAVEMENT)
	2" SCH 40 CONDUIT W/ (3)-#10 AWG, 600V CAMERA POWER CABLES IN TRENCH (INCLUDE 3" SCH. 80 SLEEVE FOR EACH CONDUIT UNDER PAVEMENT)
	2" SCH 40 CONDUIT W/ (3)-#10 AWG, 600V SIGN LIGHTING CABLES
	PAD MOUNTED LIGHTING CONTROLLER (SL-13)
	PAD MOUNTED TRANSFORMER WITH POWER TO CONTROLLER (COORDINATE WITH AEP) CT ENCLOSURE TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR
	PULL BOX, 725.06, POLYMER CONCRETE, 24"
	RELOCATED POLE MOUNTED SECURITY CAMERA (ORIENTED AS SHOWN) WITH CAMERA NUMBER AS SHOWN

MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
 PRIVATE SITE IMPROVEMENT PLAN
 FOR
DALE DRIVE COTA PARK AND RIDE
 LIGHTING PLAN



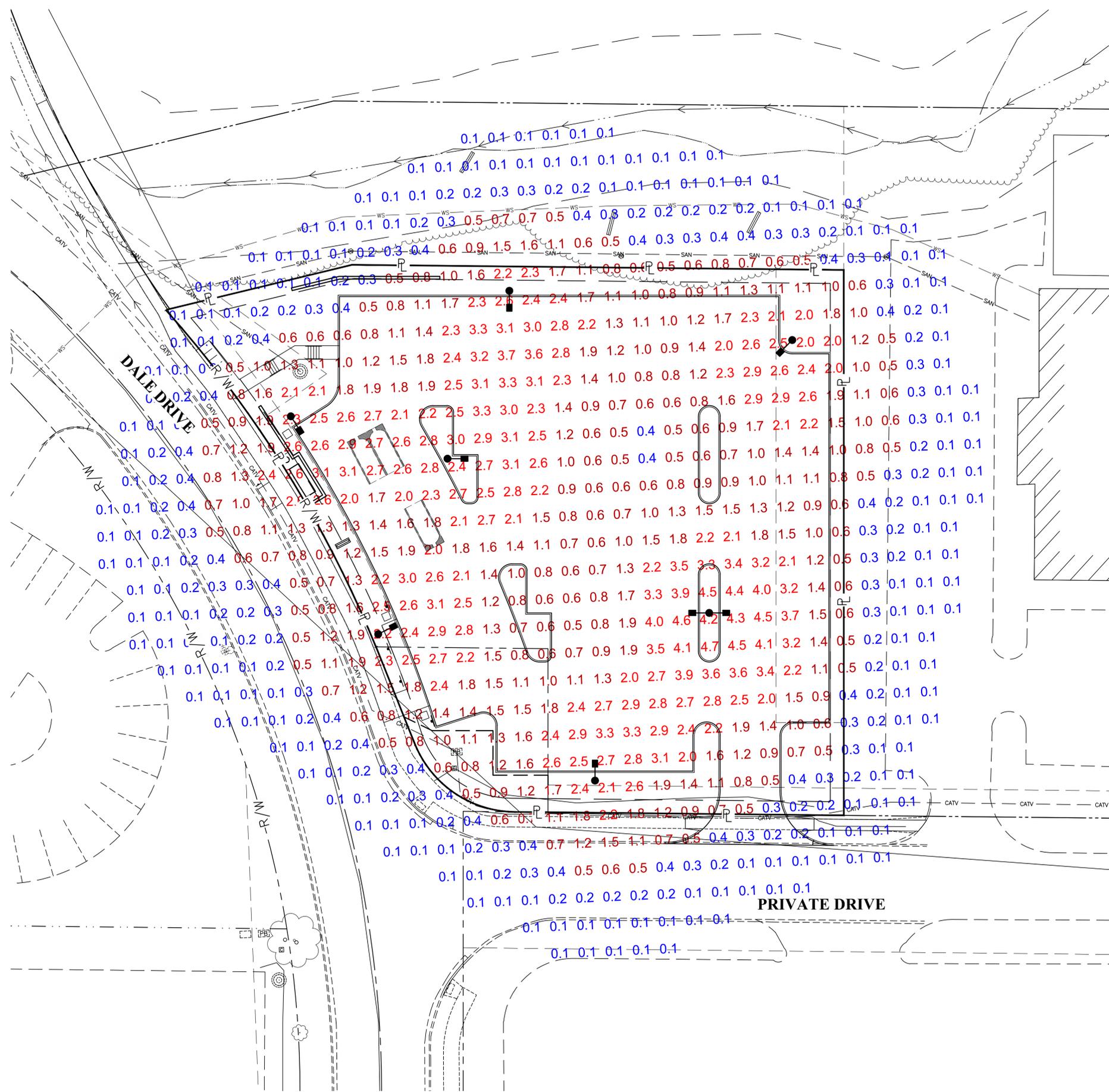
DATE
November 18, 2015

SCALE
1" = 40'

JOB NO.
2014-0588

SHEET
18/22

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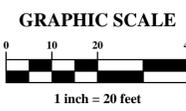
LEGEND

- LIGHT POLE (SL-03, 20')
- W/ (1)-LUMINAIRE (SL-01), ARE-EDG-3M-DA-08-E-UL-BZ-525-40K
- LIGHT POLE (SL-03, 20')
- W/ (2)-LUMINAIRE (SL-01), ARE-EDG-3M-DA-08-E-UL-BZ-525-40K

PHOTOMETRIC RESULTS					
DESCRIPTION	AVE	MAX	MIN	MAX/MIN	AVE/MIN
PARKING LOT	2.0 fc	4.7 fc	0.4 fc	11.8:1	5.0:1

NOTES

1. UNDERGROUND UTILITIES ARE NOT SHOWN FOR CLARITY.



MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
 PRIVATE SITE IMPROVEMENT PLAN
 FOR
DALE DRIVE COTA PARK AND RIDE
 SITE PHOTOMETRICS PLAN

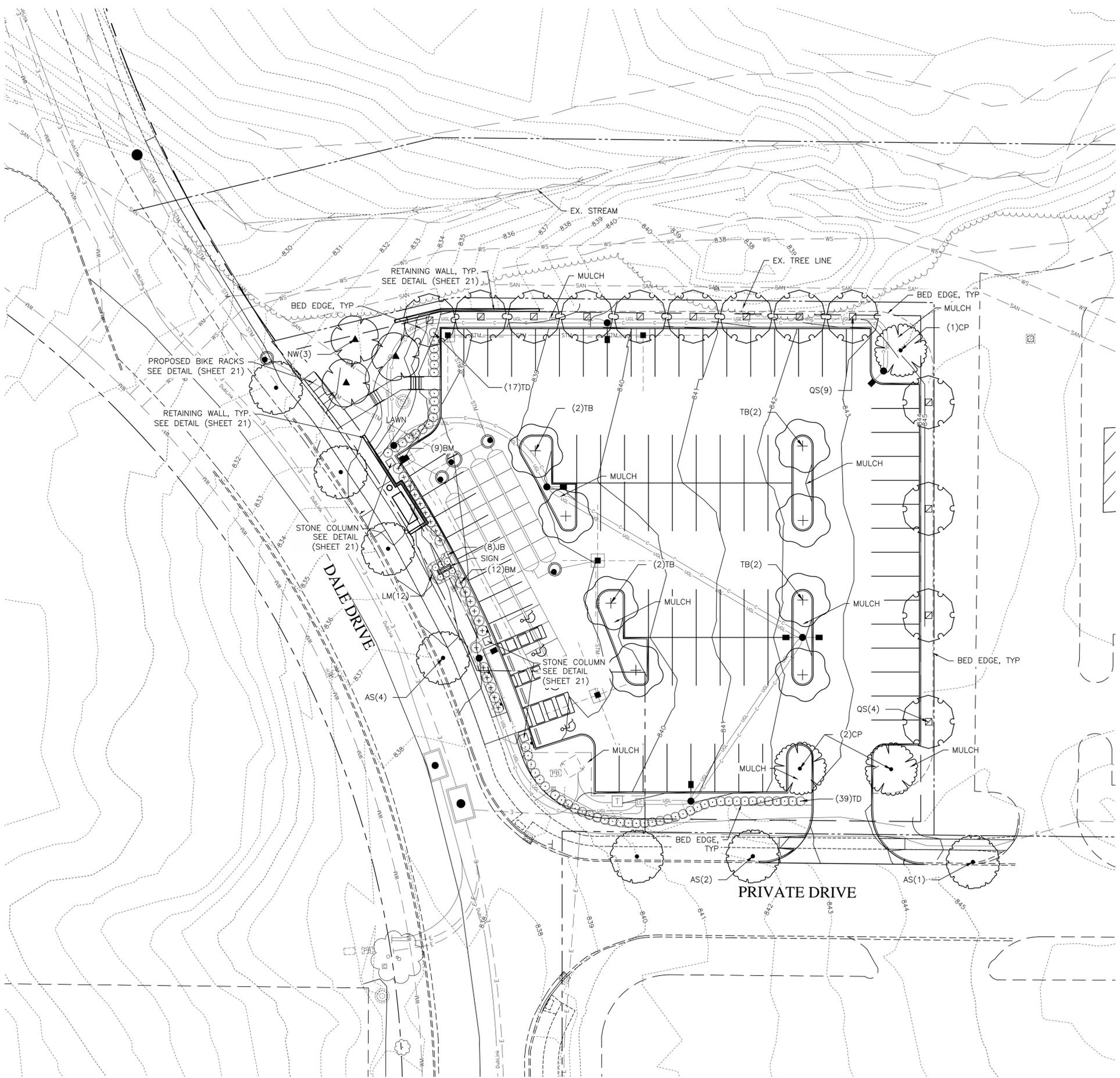


DATE
November 18, 2015

SCALE
As Noted

JOB NO.
2014-0588

SHEET
19/22



LANDSCAPE CALCULATIONS

153.065(D)(3)(a,f)(2) – A MINIMUM OF 1 TREE PER 40 L.F. OF STREET FRONTAGE OR FRACTION THEREOF. TREES SHALL BE NO LESS THAN 2.5 CALIPER INCHES AT INSTALLATION.
 ±295 L.F. STREET FRONTAGE
 TREES REQUIRED: 7
 TREES PROVIDED: 7

153.065(D)(5)(b) – PERIMETER BUFFER NOT REQUIRED DUE TO ADJOINING SITE BEING LOCATED WITHIN THE BSD AS WELL.

153.065(D)(5)(c)(1) – A MINIMUM OF 5% OF THE INTERIOR PARKING LOT AREA SHALL BE LANDSCAPED.
 TOTAL AREA = ±29,278 S.F.
 ±29,278 x .05 = ±1,464 S.F. LANDSCAPE REQUIRED
 ±2,060 S.F. LANDSCAPE PROVIDED

153.065(D)(5)(c)(2)(A) – ONE MEDIUM DECIDUOUS TREE SHALL BE PLANTED FOR EVERY 12 PARKING SPACES.
 TOTAL PARKING = 85 SPACES
 TREES REQUIRED = 7 TREES
 TREES PROVIDED = 11 TREES

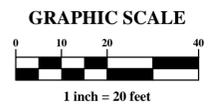
153.065(D)(5)(d) – EVERGREEN HEDGE WITH MATURE HEIGHT OF 3' PROVIDED AS ALTERNATIVE STREET LANDSCAPING.

153.065(E)(2) – 30–36" HT STREET WALL PROVIDED

TREE REPLACEMENT
 TREES REQUIRED = 159" CAL
 TREES PROVIDED = 85" CAL

PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	
AS	7	Acer saccharum	Sugar Maple	2.5" Cal.	B&B	
CP	3	Celtis occidentalis 'Prairie Pride'	Prairie Pride Hackberry	2.5" Cal.	B&B	
NW	3	Nyssa sylvatica 'Wildfire'	Wildfire Black Gum	2.5" Cal.	B&B	
QS	13	Quercus shumardii	Shumard Oak	2.5" Cal.	B&B	
TB	8	Tilia americana 'Boulevard'	Boulevard Linden	2.5" Cal.	B&B	
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	
BM	21	Buxus x 'Green Mountain'	Green Mountain Boxwood	24" Ht.	B&B	
JB	8	Juniperus sabina 'Buffalo'	Buffalo Juniper	18" Spr.	Cont.	
TD	56	Taxus x media 'Densiformis'	Dense Yew	24" Ht.	B&B	
SHRUB AREAS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
LM	12	Liriope muscari 'Big Blue'	Big Blue Liriope	#1	Cont.	18" o.c.



MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
 PRIVATE SITE IMPROVEMENT PLAN
 FOR
DALE DRIVE COTA PARK AND RIDE
 LANDSCAPE PLAN



DATE
 November 18, 2015

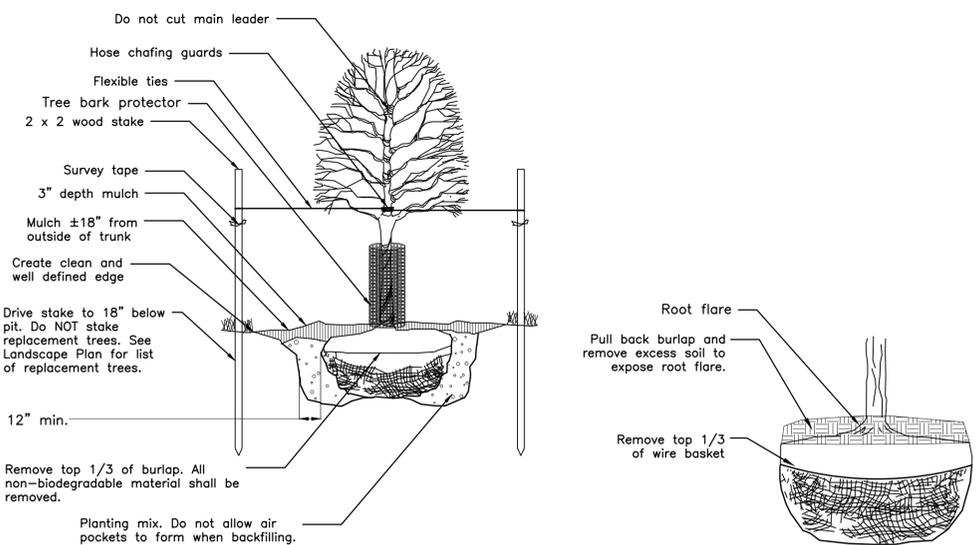
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JOB NO.
 2014-0588

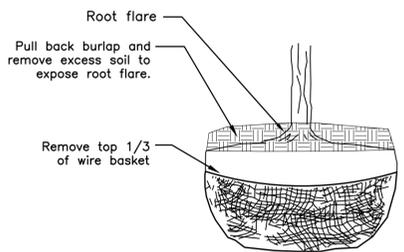
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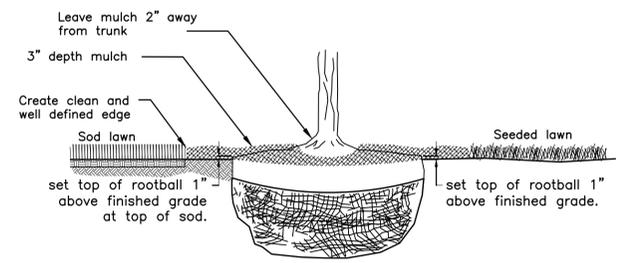
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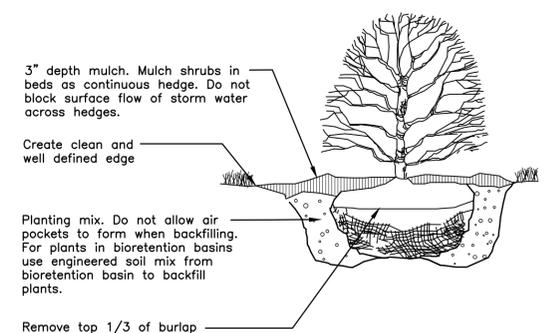
Deciduous Tree Planting
No Scale



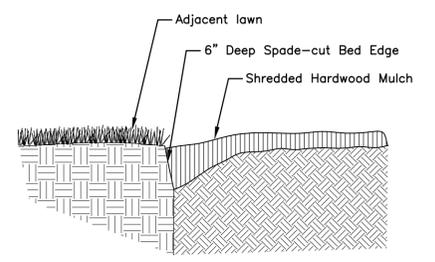
Rootball Preparation
No Scale



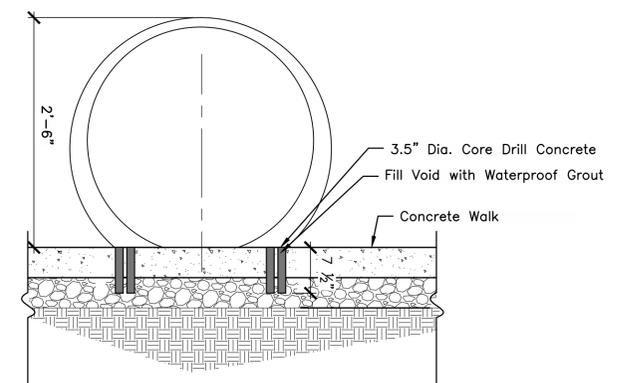
Rootball Setting
No Scale



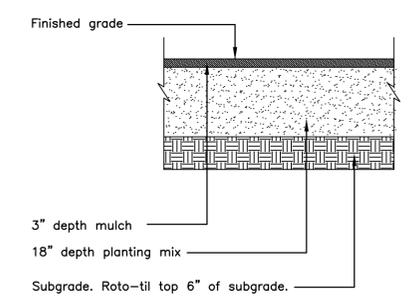
Shrub Planting
No Scale



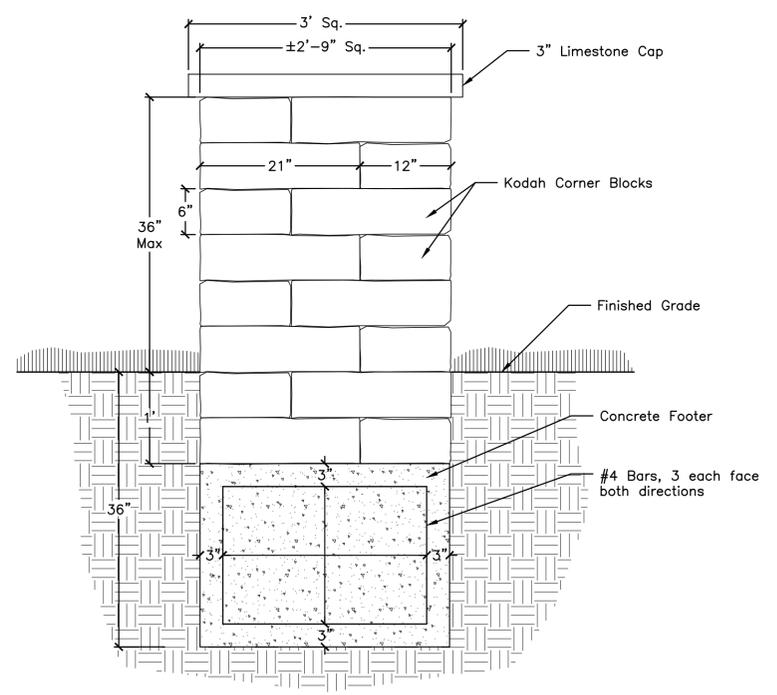
Planting Bed Edge
No Scale



Bike Rack
No Scale

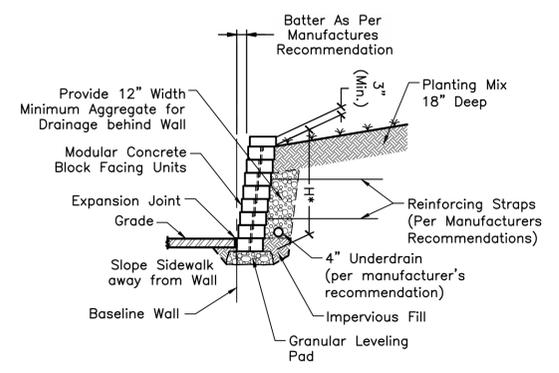


Planting Area Establishment
No Scale



Stone Column
No Scale

- Notes:**
- Each Course and Cap to be attached with adhesive per Manufacturer's specifications.
 - Stone Column shall be constructed with Kodah Wall Corner Units, by Rosetta Hardscapes. Available from Oberfield's (614.252.0955). Color shall be Scioto and adjusted to match sign limestone split veneer if required.
 - Pour mud slab of lean concrete over areas of bedrock if encountered in column footer locations. Create level surface for concrete footer and reduce depth of footer.
 - Labor and materials for concrete footer including excavation, concrete and reinforcing bars shall be paid for in Item Special - Column Concrete Footer.
 - Labor and materials for Mud Slab including excavation and lean concrete shall be paid for in Item Special - Column Mud Slab.



Retaining Wall
No Scale

Note: Wall shall be constructed with Kodah Wall Units, by Rosetta Hardscapes. Available from Oberfield's (614.252.0955).

H* = Varies 0'-3.3'

THE DESIGN OF THE WALL SYSTEM SHALL BE BASED ON THE SOIL PARAMETERS AS GIVEN IN THE GEOTECHNICAL REPORT.

THIS MODULAR BLOCK WALL SHALL BE DESIGNED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED DESIGN GUIDELINES, AND THE SPECIAL PROVISIONS. DETAIL PLANS FOR THE CHOSEN RETAINING WALL SYSTEM, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OHIO SHALL BE SUBMITTED TO EMH&T FOR APPROVAL.

- THE CONTRACTOR SHALL SUBMIT SIGNED AND SEALED SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE CITY.
- LOCATE DRAINAGE TILE PER WALL MANUFACTURER'S RECOMMENDATIONS.

GENERAL NOTES

- Prior to installation, the landscape contractor shall inspect the general site conditions and verify the subgrade, elevations, utility locations and topsoil provided by general contractor. The landscape contractor shall notify the general contractor of any unsatisfactory conditions and work shall not proceed until such conditions have been corrected and are acceptable to the landscape contractor.
- All plants shall meet or exceed standards set in the American Standard for Nursery Stock, ANSI Z60.1, 2004. All plants shall equal or exceed the measurements and sizes specified in the schedule.
- All planting operations shall adhere to American Nursery & Landscape Association standards unless noted otherwise.
- Substitutions shall be permitted with notification and written approval from the Owner. Substituted material shall be equivalent or greater in size than the specified plant. Substituted plants shall have the same essential characteristics and growth habit of the specified plant.
- Confirm location of all utilities and subsurface drain lines prior to plant installation. Contractor may slightly field adjust plant locations as necessary to avoid utilities. Finished planting beds shall be graded to provide positive drainage.
- Contractor shall repair all lawn areas disturbed during construction with seed and warrant a healthy, weed free lawn prior to project acceptance.
- Seed all areas within contract limits that are not covered by paving, buildings or planting beds unless otherwise noted. Seeding shall not begin until area has received topsoil and finished grade.
- Mulch planting beds with shredded hardwood mulch of uniform dark brown color. It shall be free of twigs, leaves, disease, pest or other material unsightly or injurious to plants. Average applied thickness shall be 3" depth. Mulch hedges in a continuous bed.
- Planting beds shall be covered with pre-emergent herbicide applied at product specified rate unless otherwise noted.
- Bed edge shall be smooth, consistent, hand trenched 6" deep and "V" shaped unless otherwise noted. All excavated material shall be removed from the bed edge and planting bed.
- All planting bed edges to be smooth flowing arcs or straight lines as shown on plan. Plant locations and layout of beds shall be located by Contractor and approved by Landscape Architect prior to planting.
- Install all plants in accordance with planting details and specifications.
- Parking lot and street trees shall have a clear canopy height of 6' min.
- Tree shall be placed a minimum of 3' from sidewalks and curbs.
- Planting Mix shall be blended, manufactured soil and consisting of three (3) parts topsoil, one (1) part compost, one (1) part sand. Topsoil shall be ASTM D5268, pH range of 5.5 to 7, min. 4 percent organic material, free of stones and soil clumps 3/4 inch and larger. Compost shall be yard waste compost from an EPA rated Class IV compost facility or Com-til compost from City of Columbus Department of Public Utilities. Sand shall be clean, sharp, natural sand meeting the requirements of ASTM C33 for fine aggregate. A proprietary manufactured Planting Mix such as Kurtz Bros. Professional Blend or Jones SuperSoil may be used. Submit product data for review by Owner. Place Planting Mix in settled 6 inch lifts.
- Mix Mycorrhizal Fungi into Planting Mix during placement of Planting Mix. Application rate shall be according to manufacturer's written recommendations. Mycorrhizal Fungi shall be a dry, granular inoculant containing at least 5300 spores per lb (0.45 kg) of vesicular-arbuscular mycorrhizal fungi and 95 million spores per lb (0.45 kg) of ectomycorrhizal fungi, 33 percent hydrogel, and a maximum of 5.5 percent inert material.
- Roto-Til subgrade below Planting Mix to a depth of 6 inches prior to placement of Planting Mix.
- Planting beds, including mulch, shall be no higher than 6 inches above adjacent grade.
- Lawn areas to be backfilled with topsoil to a minimum settled thickness of 6 inches.
- All trees, shrubs, groundcover, and lawns to be fertilized with a commercial grade fertilizer consisting of fast and slow release nitrogen.
- Composition and application rate of fertilizer shall be sufficient to amend soil according to recommendations of a qualified soil testing agency. Submit test results and amendment recommendations to Landscape Architect. Fertilizer shall be in a dry granular form for lawns and granular or tablet form for plants.
- Contractor to determine plant list quantities from the plan. Graphic representation on plan supersedes in case of discrepancy with quantities on schedule.
- Any item or areas damaged during construction shall be repaired or replaced to its original condition at the contractor expense.
- Contractor shall thoroughly water all plants at time of installation and as needed until project acceptance by Owner.
- Contractor shall provide temporary tree watering bags for all trees. Single or double bags may be provided. Minimum total bag capacity per tree shall be 20 gallons. Refill bags at least once every 7 days during the growing season. Maintain, adjust and refill bags for 1 year from date of project acceptance by Owner. Remove bags temporarily from from December 1 to April 1. Remove bags permanently 1 year from date or project acceptance by Owner.
- Contractor shall warranty all plants installed for one full year from date of project acceptance by the Owner. All plants shall be alive, disease free and at a vigorous rate of growth at the end of the warranty period.

LANDSCAPE MAINTNENCE NOTES

- Fertilization: All fertilizer applications shall be based on soil testing. Take soil tests in the fall, consisting of composite sample, of at least three core borings, for each lawn and shrub bed area. Borings shall be taken to a 6 inch depth. Test for nitrates, phosphorous, potassium, calcium, magnesium, and organic matter content. Base fertilizer blends on soil test results. Perform soil test every year.
- Pruning: Prune nursery planted trees shown on this plan according to ANSI A300 Pruning Standard - Part 1. Do not prune existing trees except to remove broken or damaged branches. Prune deciduous trees once a year in dormant winter season to remove dead low hanging branches and improve form on trees, as needed. Ornamental trees are to be pruned the immediate month after blooming is completed. Thin out evergreen trees and shape when necessary to prevent wind and storm damage. Prune shrubs to maintain a loose, unclipped hedge with a height of 3 to 4 feet. Allow individual shrubs to grow together to form a hedge.
- Pest control: Monitor lawn, trees and shrubs for pests and disease on routine basis. If problems are noticed, notify Owner of problems and recommended treatment, and proceed upon approval. Use State of Ohio accepted Integrated Pest Management (IPM) principles. Comply with Ohio Revised Code 901: 5-11-14 Integrated Pest Management Standard.
- Mulching: Soils in all landscape bed areas shall be kept covered with organic, shredded bark mulch. Inspect mulch in landscape beds twice a year, in mid to late fall and late spring. Add sufficient depth of bark mulch to maintain 2 to 3 inches of mulch depth. Rake mulch beds to mix and smooth new mulch and old. Keep mulch 3" away from the trunk of trees.
- Mowing: Mowing interval shall be based on grass height to be maintained. Mow to a minimum height of 2 1/2 inches in spring and fall and 3 inches in the summer. Do not mow-off more than one third of the grass leaf height at each mowing. Do not mow when raining or when grass is wet.
- Edging: Turf shall be trimmed with a string trimmer at edges of pavements, curbs, around planting beds, tree rings, light fixtures and signs. Do not use power trimmer around the base of trees or shrubs. Annually during the spring re-cut bed edges per Planting Bed Edge detail.



MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
 PRIVATE SITE IMPROVEMENT PLAN
 FOR
DALE DRIVE COTA PARK AND RIDE
 LANDSCAPE DETAILS

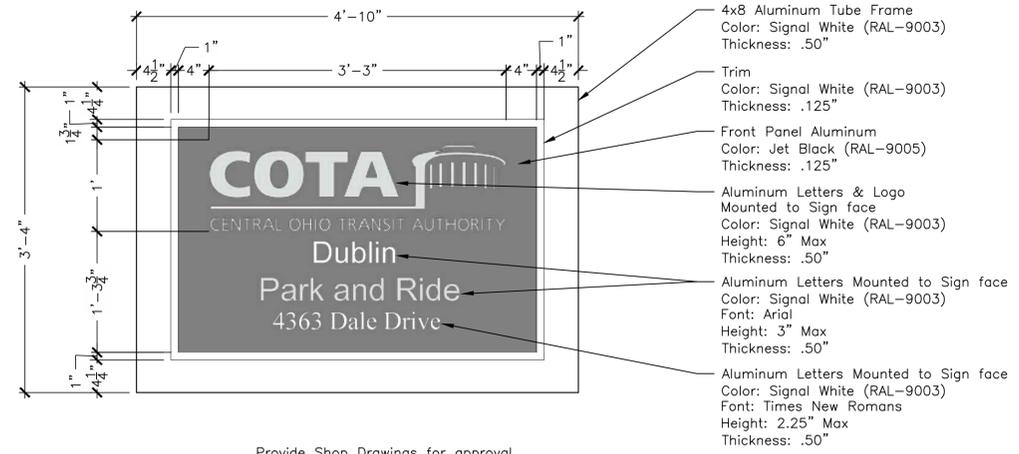
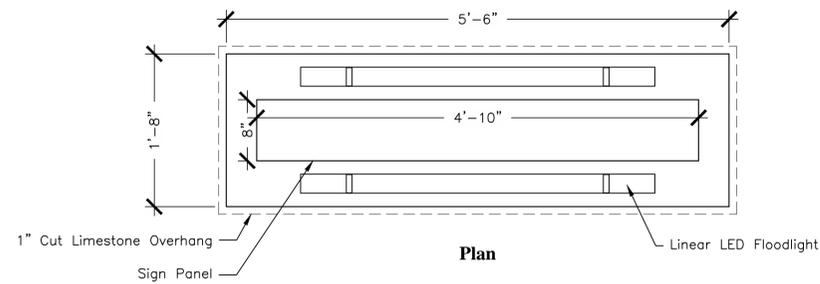


DATE
November 18, 2015

SCALE
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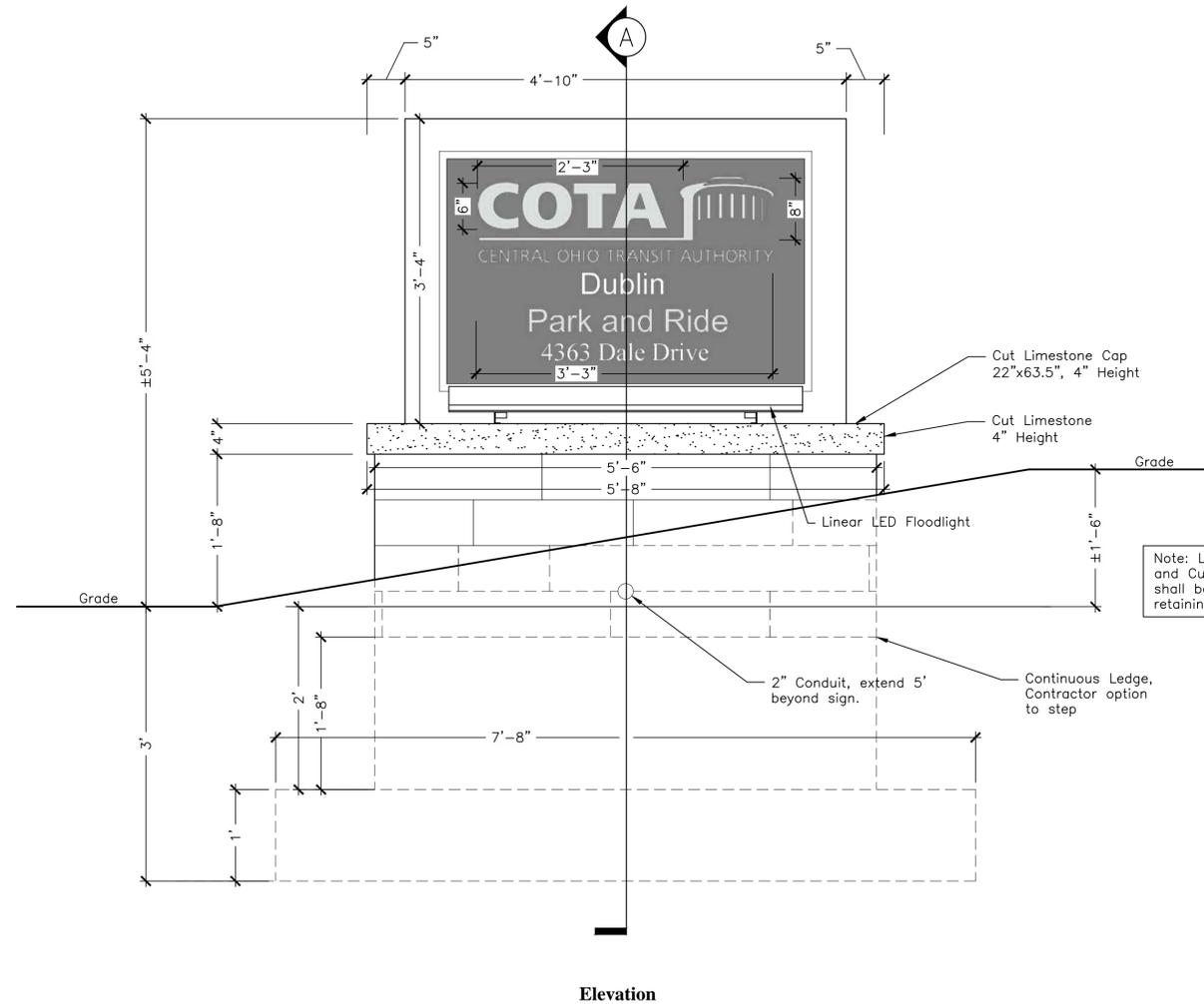
JOB NO.
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SHEET
21/22

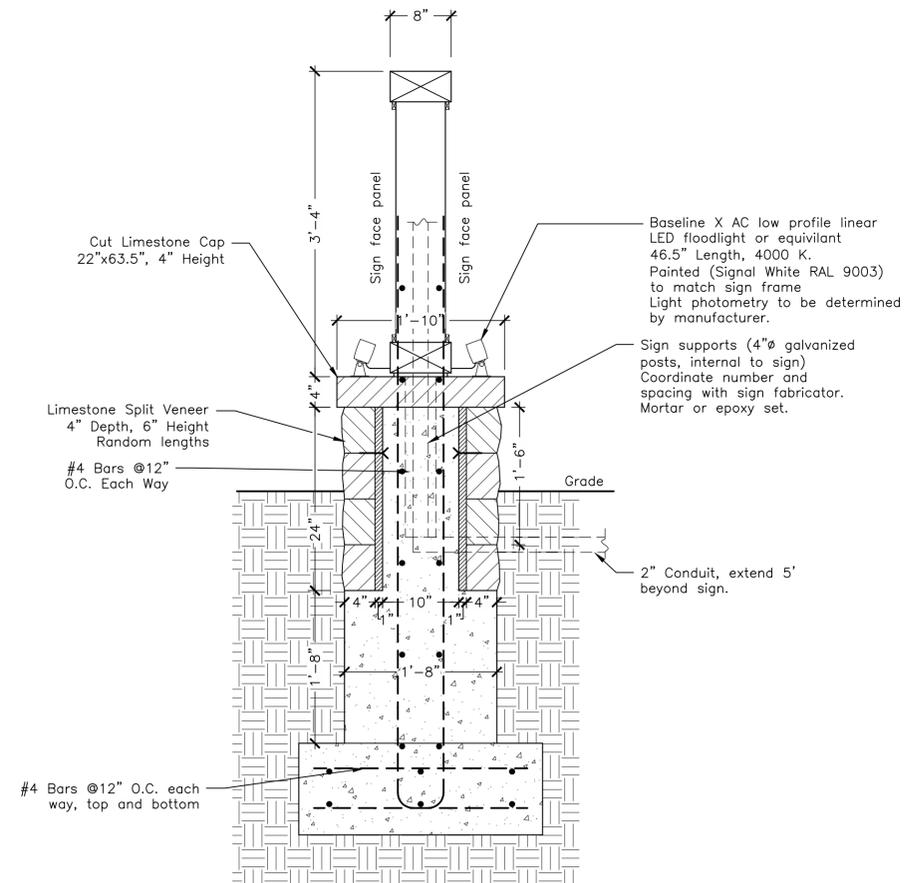


Provide Shop Drawings for approval. Shop drawings to include aluminum framing and non-corrosive fasteners as required.

Sign Panel



Elevation



Section A



Sign
Scale: 1" = 1'-0"

MARK	DATE	DESCRIPTION



CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
PRIVATE SITE IMPROVEMENT PLAN
FOR
DALE DRIVE COTA PARK AND RIDE
SIGN DETAILS



DATE
November 18, 2015

SCALE
1" = 1'-0"

JOB NO.
2014-0588

SHEET
22/22

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