UPPER MORELAND TOWNSHIP
Community Development Committee Meeting
September 19, 2022 at 7:00 p.m.
AGENDA ITEMS ARE SUBJECT TO CHANGE

INSTRUCTIONS TO JOIN:

Go to Zoom.us. Click "Join a Meeting"	Webinar ID: 917 5771 7982	Password: 182130
Join by Phone: Dial 1-929-205-6099	Webinar ID: 917 5771 7982	Password: 182130

***Residents requiring special accommodations:*
*please call the Township during normal business hours at 215-659-3100 x1058 or x1057***

Community Development Committee Members: Commissioner and Committee Chair Kevin C. Spearing, Commissioner Kip McFatridge and Commissioner Anthony Prousi, Township Staff Committee Members: Paul E. Purtell, Director of Code Enforcement and David Elsier, Director of Public Works.

I. Moment of Silent Meditation

II. Pledge of Allegiance

III. Call to Order

IV. Announcements

V. Roll Call

VI. Presentation

VII. Approval of Minutes – July 18, 2022 (attachment)

VIII. Land Development/Subdivision

A. Proposed land development of the Olive Garden located at 2402 Easton Road (attachments).
B. Proposed lot consolidation of two lots with the intent to develop 1,720 square foot two-story dwelling and two-car garage for the property located on New Street (attachments).

IX. New Business:

A. Redevelopment sketch plan proposal submitted by BET Investments, Inc. for Executive Mews, located at 2300 Computer Avenue and 2309 & 2317 Blair Mill Road, Block 46C, Units 6,8, & 14 (attachments).
B. Request for a waiver of curb for the property located at 4121 Blair Mill Road (attachments).
C. Authorize Township's Traffic Engineer to submit a grant application to PennDOT for the Traffic Signal Technologies Program (attachments).

X. Old Business:

A. Sewer System Installation Cost Estimate – Manor House Road (attachments).
B. Willow Grove Shopping Center - Federal Realty Investment Trust HOP Application – Issues with the construction of ADA compliant ramps at the Moreland Road driveway and the request to defer the construction of the ramps (attachments).
C. Proposed text amendments submitted by Federal Realty Investment Trust to the TC-Town Center Zoning District (attachments).
D. Green-Light-Go Bid (attachments)
E. Zoning Ordinance Update

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XI. Other:
A. Discussion on surveying of 2603 Parkside Avenue (attachment)

XII. Acceptance and Approval of the following monthly reports (attachments)**:**
A. Code Enforcement Department Reports
B. Public Works Department Report and Recycling Report
C. Engineer's Report
D. Landscape Architect's Report
E. Traffic Engineer's Report
F. Environmental Advisory Council {EAC}
G. Upper Moreland Historical Commission

XIII. Visitor Comments

XIV. Redevelopment

XV. Commissioner Comments

XVI. Adjournment

UPPER MORELAND TOWNSHIP
Community Development Committee
July 18, 2022 - Meeting Minutes

Community Development Committee Members - Commissioner and Committee Chair Kevin C. Spearing, Commissioners Kip McFatridge, Anthony S. Prousi, Paul E. Purtell, Director of Code Enforcement, David Elsier, Director of Public Works

I. **Moment of Silent Meditation**

II. **Pledge of Allegiance**

III. **Call to Order** - The meeting was called to order by Committee Chair and Commissioner Kevin C. Spearing.

VI. **Roll Call:** Committee Chair and Commissioner Spearing, Commissioners McFatridge, Prousi, Mr. Elsier and Mr. Purtell. Also present: Matthew H. Candland, Township Manager, James Hersh, Township Engineer, Sean Kilkenny, Township Solicitor.

V. **Presentations/Announcements:**
Commissioner Spearing announced that the Board of Commissioners met in an Executive Session prior to tonight's meeting to discuss legal and personnel matters.

VI. **Approval of Minutes** – June 13, 2022:
- Commissioner Prousi amended Section VIII, B., page two, first bullet, to read, "…, device could be permitted."
- The minutes were unanimously approved as amended.

VII. **Land Development/Subdivision:**
A. Request by New Century Associates for a minor land development application for the property located at 2010 County Line Road at the Marketplace at Huntingdon Valley, for the reuse of a former bank building conversion to Chipotle Restaurant:
   - ➢ Stephen Kline, AIA, reviewed in detail the plans and waivers.
   - The Committee recommends the Board of Commissioners take action at the August 1, 2022 Regular Meeting.

VIII. **New Business:**
A. Review of Transportation Projects – Anton Kuhner, McMahon Associates, discussed the following:
   - ➢ The priority list for Transportation Capital Improvements concerning: widening to extend turn lanes at Blair Mill Road at Easton Road; Maryland Road eastbound lane and Commerce Road southbound lane; Warminster Road sidewalk; Computer Road sidewalk; relocation of Willow Grove Train Station; traffic sign upgrades throughout the Township; and additional projects for priority consideration.
   - ➢ Commissioner Spearing requested an update on traffic coordination for the construction at Commerce Road at Witmer Road.
   - ➢ The Committee directed Mr. Kuhner to provide future updates on the Master Trail, and a timeframe for work on Maryland Road and Commerce Road.
   - The Committee will continue a discussion at a future Community Development Committee Meeting.

B. Request by 1006 York Road Condominium Association to reduce bill for trash and recycling

services from the Township:

- ➢ Mr. Elsier explained a history of issues regarding the storing of trash on the property for collection day.
- The Committee directed Mr. Elsier to notify the Association that their fee will not be split or reduced. Payment is required for the collection of trash and/or recycling. The Association can choose not pay the fee, however, the Township will collect neither trash nor recycling.

IX. **Old Business:**

A. Request by Walmart to amend Resolution R-2022-20 to increase the placement of portable storage trailers, one (1) temporary construction office trailer and two (2) construction dumpsters on the property located at 2101 Blair Mill Road:
   - The Committee recommends the Board of Commissioners take action on the amended Resolution at the August 1, 2022 Regular Meeting.

B. Five Hundred Block of Evans Circle – Storm Pipe – Update:
   - ➢ Mr. Elsier explained that a contractor performed an inspection and no issues were identified. The area will continue to be monitored.

C. Failure of septic system on Manor House Lane – Update:
   - ➢ Mr. Candland explained that the Sewer Authority will provide a plan with an estimate for review by the Committee. Montgomery County may decide to require that property owners in the area meet current standards and thereby connect to the public sewer system.
   - The Committee will continue a discussion at the September 19, 2022 Community Development Committee Meeting.

D. Zoning Ordinance Update (under review):
   - ➢ Mr. Purtell stated that a full update will be provided at the September 19, 2022 Community Development Committee Meeting.

E. Responsible Contractor Draft Ordinance (RCO) Discussion:
   - ➢ The Committee held an extensive and lengthy discussion on the advantages and disadvantages of an RCO concept.
   - The Committee agreed to remove this item from future agendas.

X. **Other Items:**

A. Consider the cancellation of the August 8, 2022 Community Development Committee Meeting.
   - The Committee agreed to cancel the August 8, 2022 Community Development Committee Meeting.

XI. **Acceptance and Approval of the following monthly reports for June 2022:**

A. Code Enforcement Department Reports:
   - ➢ Commissioner Spearing inquired about grass cutting and Mr. Purtell replied that a few issues remain ongoing.

B. Public Works Department Report and Recycling Report:
   - ➢ Commissioner Prousi inquired about the potential use of automated trash trucks with incentives. Mr. Elsier discussed advantages of the truck and will provide the Committee with further information he acquired from the meeting he attended. A demonstration of the truck is to be provided at Upper Dublin Township.

C. Engineer's Report - Mr. Hersh highlighted the following items:
   - The Department of Environmental Protection has a model stormwater ordinance that all municipalities are required to adopt by the end of September. Mr. Hersh has made a review, added minor revisions, and will work with the Solicitor to advertise for a public meeting.
     - The Committee recommends the Board of Commissioners take action at the September 12, 2022 Regular Meeting contingent upon any further changes.
   - Pat Stasio, Director of Parks and Recreation, will have the maintenance crew pump out the Fairs Oaks Basin, locate and replace the underground plates, drill holes in marked locations and fill them with stone. The area will continue to be monitored.

D. Landscape Architect's Report - Nothing further to report.

E. Traffic Engineer's Report – Anton Kuhner, McMahon Associates, reviewed the following:
   - PECO utility poll work for Warminster Bridge is being coordinated with the sidewalk project.
   - Byberry Road and Davisville Road work is nearly completed and the traffic signal is being installed. Commissioner Spearing requested that the wire cluster hanging in the middle of the intersection be removed.

F. Environmental Advisory Council (EAC) - Dr. Lynnette Saunders, Chair, discussed the following:
   - At the July 6th meeting, Bill Sabey discussed "Ready For $100" program, which encourages communities to pass resolutions to achieve goals to use 100% renewable energy.
     - Commissioner Prousi asked Mr. Candland to check with PECO on the Township's energy source and savings.
     - Commissioner McFatridge commented that an energy audit was done several years ago to the Township's building.
     - Commissioner Spearing suggested researching other municipalities that made changes to meet goals.
   - Commissioner Spearing requested an update at a future Community Development Committee Meeting on the installation of the refillable water bottle station at Masons Mill Park.
   - A little less than 300 participants responded to the plastic bag ban survey, and overall results did not favor a ban. The EAC will continue to increase educational efforts on the negative impacts of plastics in the environment.
   - Volunteers are welcome to clear invasive vines from Veterans Memorial Park on July 30, 2022 at 9:30 a.m.
   - A search continues for a student appointment to the EAC in the Fall from either the Middle School or High School.
   - Commissioner Spearing reiterated that environmental educational programs be communicated at the schools.
   - Commissioner Lockard commented that the Township is part of a consortium in Montgomery County that is creating a Local Climate Action Plan with assistance from Penn State.

G. Upper Moreland Historical Commission – Sue Worth-LaManna reported on the following:
   - The second annual "Paint The Town" will be held on August 28, 2022, 12 noon to 4 p.m. at Pennypack Park.
     - The Committee directed Ms. Worth LaManna to submit a written request to provide food and alcoholic beverages for consideration at the July 25, 2022 Parks and Recreation Committee Meeting.

- The Commission's website is being worked on to re-establish updates and provide timely information.
- Work continues to educate and encourage property owners within the community to register on the historical inventory.

- The Committee requested a written monthly report be included in all future Community Development Committee Meeting books.

XII. **Redevelopment** - Nothing to report.

XIII. **Visitor Comments** – Nothing to report.

XIV. **Commissioner Comments** – Nothing to report.

XVI. **Adjournment** - There being no further business to discuss, the meeting was adjourned at 10:10 p.m.

Respectfully submitted by Kathleen Kristire.

Township of Upper Moreland

117 Park Avenue
WILLOW GROVE, MONTGOMERY COUNTY, PENNSYLVANIA 19090
Telephone (215) 659-3100 Ext. 1032/1033 / Fax (215) 659-8899

Paul E. Purtell
Director of Code Enforcement

Upper Moreland Township Board of Commissioners
Community Development Committee Meeting

Agenda Item:	Land Development application of Olive Garden Holdings, LLC Dba Olive Garden 2402 Easton Road
Recommended Action:	Move to full Board meeting for vote
Background:	Applicant proposes to remove existing building a build a new Olive Garden Restaurant with site improvements including landscaping and stormwater management.
Fiscal Impact/Source:	N/A
Alternatives:	N/A
Attachments:	Applicant cover letter and application, list of waiver requests, MCPC 247 review and Twp. consultant review letters.

September 16, 2022

Paul Purtell
Director of Code Enforcement
Upper Moreland Township
117 Park Avenue
Willow Grove, PA 19090

Dear Mr. Purtell,

During our Land Development Review Meeting on July 7th, 2022, it was requested that a letter of all requested waivers for the Preliminary & Final Land Development Application for the 2402 Easton Road Olive Garden Italian Kitchen Project shall be submitted to you in writing. Please see the below list of all request waivers for this project along with a brief description which explains why the waiver is being requested:

1. *§300-17.D – No less than 20 feet of open space shall be provided between the curb line of any parking area and the outside wall of the building.*
    a. A waiver is being requested from this requirement due to existing lot layout restraints and parking requirements.
2. *§300-18 –Sidewalks are required to be installed along all existing streets that abut a land development.*
    a. A waiver is being requested for the required sidewalk along Easton Road due to the existing width of the sidewalk, existing landscaping, and existing utility poles. There is also pending PennDOT road widening plan in the area.
3. *§300-19.A(7) – All curb should be installed with an 8-inch reveal.*
    a. A waiver is being requested for the above requirement and a 6-inch reveal is being requested.
4. *§300-52.C(1) – The location of all existing features within 400 feet of the property should be added to the plans.*
    a. The Township Engineer stated they would support this waiver request provided the Applicant include an Aerial plan depicting the required area to the plan set. The Aerial plan has been added to the plan.
5. *§300-43, D (2). – The proposed plans show rows of parking of 15, 18, 19 and 25 spaces which exceed the 12-space maximum. The 18, 19 and 25 are pre-existing non-conforming conditions. The proposed row of 15 parking spaces is in front of the building, where currently 14 spaces exist. While this increases the existing non-conformity, we note that the parking row is adjacent to landscaped greenspace between the proposed building and sidewalk, and the parking field overall is not a "sea" of parking.*
    a. A waiver is being requested for the above requirement. The Second Landscape Review prepared by McCloskey & Faber, P.C. indicates there is no objection to this waiver request.
6. Section 300-43. D. (1) (d) - *Proposed islands are less than the 15' width required. We note that three proposed end islands near the building, while not meeting the 15' width, are wider than existing. Furthermore, irrigation is proposed within the parking lot islands.*
    a. A waiver is being requested for the above requirement. The Second Landscape Review prepared by McCloskey & Faber, P.C. indicates there is no objection to this waiver request.

7. Section 300-43. D. (1) (g) - *Parking lot trees shall be a minimum of three inches in caliper. Four of the proposed parking lot trees are specified to be 1.5" caliper in order to replace poor / dead trees within two existing 4-foot wide islands. The root ball of a larger tree would be too large to appropriately install within the narrow islands.*
    a. A waiver is being requested for the above requirement. The Second Landscape Review prepared by McCloskey & Faber, P.C. indicates there is no objection to this waiver request.
8. Section 300-45 - *Trees proposed to be removed are assumed to be Parking Lot landscaping and Individual Lot Landscaping that were required trees per the previous development of this site. The Applicant will be replacing the quantity of trees removed and previously proposed.*
    a. A waiver is being requested for the above requirement. The Second Landscape Review prepared by McCloskey & Faber, P.C. indicates there is no objection to this waiver request.

If you should have any questions or require additional information, please do not hesitate to contact me at (813) 319-8747 or bsearcy@core-states.com.

Sincerely,



Brian Searcy, P.E.
Regional Director of Civil Engineering

August 18, 2022

James J. Hersh, P.E.
Senior Project Manager
Gilmore & Associates, Inc.
65 East Butler Avenue, Suite 100
New Britain, PA 18901

CC: Paul Purtell, Director of Code Enforcement
Mathew Candland, Township Manager
Sean Kilkenny, Esq., Township Solicitor
Kim Flanders, RLA, McCloskey & Faber, PC
Chad Dixon, P.E., McMahon & Associates
Brian Searcy, P.E., Core States Group
Sandi LeBlanc, Olive Garden Holdings, LLC

RE: 2402 Easton Road
Olive Garden Italian Kitchen
Land Development Review 1

Dear Mr. Hersh,

We are in receipt of the Land Development Review #1 Letter for Olive Garden Italian Kitchen – 2402 Easton Road located in Upper Moreland Township, Montgomery County, PA dated July 6, 2022. Please find enclosed responses to the previously mentioned documents.

Zoning Ordinance

Comment 1 *We have identified no issues with the proposed plan with respect to the requirements and provisions of the current Upper Moreland Township Zoning Ordinance (Chapter 350).*

Response 1 **Comment Acknowledged.**

Subdivision and Land Development Ordinance (SALDO)

Comment 1 *§300-14.G – The Board of Commissioners (Board) may grant modification to the requirements of this ordinance provided the Applicant proves undue hardship. Any waivers should be formally requested from the Township unless the plans are revised to address all comments of this letter relative to the SALDO and Stormwater Ordinances. The Record plan should list the waivers, applicable section numbers, and the date granted as applicable, including any conditions*

Response 1 **Completed. A list of waivers is shown on the Cover Sheet C1.1 and a letter of waiver request is attached with this submission.**

Comment 2 *§300-16 – Clarification should be provided for the two existing site entrances along Easton Road to detail the permitted traffic movements within these areas (i.e., right-in, right-out, one-way, two-way, etc.) Ultimately, we defer to McMahon & Associates, Inc with respect to site access and circulation.*

Response 2 **The existing driveway which exits onto Sycamore Avenue has two way access. The western driveway along Easton Road is a right-in only movement and the eastern driveway along Easton Road is a right-in right-out movement.**

Comment 3 *§300-17.D – No less than 20 feet of open space shall be provided between the curb line of any parking area and the outside wall of the building. The parking layout shall be revised to meet the requirements of this section, or a waiver requested.*

Response 3 **A waiver is being requested from this requirement due to existing lot layout restraints and parking requirements.**

Comment 4 *§300-17.H – No less than a five-foot radius of curvature should be provided for all curb lines in parking areas. The proposed curbline radii for the proposed parking area should be revised to meet the requirements of this section, or a waiver requested.*

Response 4 **Completed. Please Refer to the Civil Site Plan/Dimensional Control Plan (Sheet C5.1).**

Comment 5 *§300-18 – We defer to the Board to determine if sidewalks are warranted along the property frontage of Easton Road. Sidewalks are required to be installed along all existing streets that abut a land development and a waiver would be necessary to construct the plan as currently proposed.*

Response 5 **A waiver is being requested for the development of a sidewalk along Easton Road due to the existing width of the sidewalk, existing landscaping, and existing utility poles. There is also pending PennDOT road widening plan in the area.**

Comment 6 *§300-19.A(7) – All curb should be installed with an 8-inch reveal. The plan proposes a 6-inch curb reveal. The plan should be revised to meet the requirements of this section, or a waiver requested.*

Response 6 **A waiver is being requested for the above requirement and a 6-inch reveal is being requested.**

Comment 7 *§300-25 – We offer the following comments with respect to the Erosion & Sediment Control Plan:*

a. *Compost filter sock should be proposed at all downstream areas of the proposed earth disturbance.*

b. *Tree protective fencing should be proposed along the northwest property line where the limit of disturbance (LOD) encroaches on the existing tree line.*

Response 7-a **Completed. Please Refer to the Erosion and Sediment Control Plan (Sheet C3.1).**

Response 7-b **Completed. Please Refer to the Erosion and Sediment Control Plan (Sheet C3.1).**

Comment 8 *§300-26 – The plans should be submitted to the Upper Moreland – Hatboro Joint Sewer Authority for review.*

Response 8 **Comment Acknowledged.**

Comment 9 *§300-27 – The plans should be submitted to Aqua PA for review and a copy of the agreement with Aqua PA provided upon receipt.*

Response 9 **Comment Acknowledged.**

Comment 10 *§300-29 – Shields should be proposed for all site lighting along the residential property lines to prevent light spillover onto adjacent properties. The Photometric Plan should be updated accordingly.*

Response 10 **Completed. Please Refer to the Photometric Plan prepared by Cree Lighting in which shielding has been added to all site lighting along the residential property lines.**

Comment 11 *§300-32 – We defer to the Township's Fire Marshal for review and approval of the plans. Approval from the Fire Marshal is required prior to recording of the plan.*

Response 11 **Comment Acknowledged.**

Comment 12 *§300-34.F – The Applicant is required to contribute a fee-in-lieu of open space dedication in accordance with this section. We calculate the fee based on 6,501 S.F. of leasable floor area within the building and $500.00 per 1,000 S.F. of required open space, to be $650.10.*

Response 12 **Comment Acknowledged.**

Comment 13 *§300-39 – We defer review of the plans with respect to the landscaping requirements of the Ordinance to McCloskey & Faber.*

Response 13 **Comment Acknowledged.**

Comment 14 *§300-52.C(1) – The location of all existing features within 400 feet of the property should be added to the plans or a waiver requested. We would support this waiver request provided the Applicant include an Aerial plan depicting the required area to the plan set.*

Response 14 **Completed. Please Refer to the Cover Sheet Plan (Sheet C1.1).**

Comment 15 *§300-52.C(2) – The plan should be revised to note Sycamore Avenue, as opposed to Sycamore Road.*

Response 15 **Completed.**

Comment 16 *§300-53.C – The Sheet Index on the Cover Sheet, Sheet 1, should be revised to note which plan sheets are to be considered a part of the Record Plan. In addition, a note should be added below the Sheet Index stating all remaining plan sheets, which are not being recorded, on file at Upper Moreland Township, shall be considered part of the final record plan as if recorded with same.*

Response 16 **Completed. Please Refer to the Cover Sheet (Sheet C1.1).**

Comment 17 *§300-59 – The Applicant is required to post financial security to guarantee the construction of the proposed improvements. An Engineer's Opinion of Probable Cost should be submitted to our office for review and approval.*

Response 17 **Completed. Please Refer to the Engineer's Opinion of Probably Cost that is included in the submittal.**

Comment 18 *The plan should clarify if a loading/unloading area is necessary for the proposed restaurant. In the event a loading/unloading area is warranted, the space should comply with §350-178.C.*

Response 18 **Completed. Please Refer to Keynote "AJ" on the Civil Site Plan/Dimensional Control Plan (Sheet C5.1).**

Comment 19 *A detail should be provided for the proposed trash enclosure to ensure proper screening measures.*

Response 19 **Completed. Please Refer to the Architectural Plans.**

Comment 20 *We recommend construction fencing be proposed along the Easton Road access points to prevent vehicles from utilizing those entrances. We note Sycamore Avenue is intended to be the only construction access point for the site.*

Response 20 **Completed. Please Refer to the Erosion and Sediment Control Plan (Sheet C3.1) and Erosion and Sediment Control Details (Sheet C3.2).**

Comment 21 *The Applicant is responsible for all other required approvals, permits, etc. (i.e., MCPC, MCCD, PADEP, PennDOT, Municipal Authority, Fire Marshal, etc.) Copies of these permits or approvals shall be forwarded to the Township.*

Response 21 **Comment Acknowledged.**

Stormwater Management Ordinance

Comment 1 *§287-18.K – Storage facilities should drain both the volume control and rate control capacities over a period of time not less than 24 hours and not more than 72 hours. Dewatering calculations should be added to the Stormwater Management Report to show compliance with the requirements of this section.*

Response 1 **Completed. Please Refer to page 10 of the revised Stormwater Management Report.**

Comment 2 *§287-18.W – The top of stone elevation should be added to underground basin cross-sectional detail located on the Construction Details, Sheet C8.2, to correlate with the Pond Report.*

Response 2 **Completed. Please Refer to the Cross Section of Subsurface Detention / Infiltration Basin on the Construction Details Sheet (Sheet C8.2).**

Comment 3 *§287-18.X(13) – Water quality inserts should be placed within Storm Structures A2 & A13 to improve water quality and prevent debris from entering the underground system. Ownership and maintenance procedures and responsibilities for the water quality devices should be noted on the plans and included within the PCSM Report.*

Response 3 **Completed. Please Refer to the Post-Construction Stormwater Management Plan (Sheet C7.4).**

Comment 4 *§287-31 – The plans should indicate the maintenance and ownership of the stormwater facilities will be the responsibility of the lot owner.*

Response 4 **Completed. Please Refer to the Post-Construction Stormwater Management Plan (Sheet C7.4) under the Drainage Notes.**

Comment 5 *§287-33 – A blanket easement shall be provided over the site for inspection by the Township. In addition, a Stormwater Maintenance Agreement will be prepared by the Township Solicitor and executed prior to the plans being recorded.*

Response 5 **Completed. Please Refer to the Post-Construction Stormwater Management Plan (Sheet C7.4) under the Drainage Notes.**

Comment 6 *The outfall structure on the southwest end of the lot should be revised to include dimensions on the plan and detail.*

Response 6 **Completed. Please Refer to the Post-Construction Stormwater Management Plan (Sheet C7.4) and the Construction Details Sheet (Sheet C8.2).**

If you should have any questions or require additional information, please do not hesitate to contact me at (813) 319-8747 or bsearcy@core-states.com.

Sincerely,



Brian Searcy, P.E.
Regional Director of Civil Engineering

August 18, 2022

Kimberli J. Flanders, R.L.A.
Assistant to Township Landscape Architect
McCloskey & Faber, P.C.
831 Dekalb Pike
Blue Bell, PA 19422-1215

CC: Matt Candland, Township Manager, Upper Moreland Township (email)
David Elsier – Upper Moreland Township (email)
Jim Hersh, P.E. – Township Engineer (email)
Sean Kilkenny, Esq. and Alex Baumler – Township Solicitor (email)
Brian L. Searcy, PE, Project Engineer, Core States, Inc. (email)
Christopher Lang, E.I.T, Senior Project Designer, Core States Group (email)
Eric M. Shepley, RLA, Project Landscape Architect, Evergreen Design Group
Sandi LeBlanc, L. D. Reeves & Associates Inc., Applicant's representative (email)
Shannon Dunn, Development Manager, Darden (email)
James R. Faber, ASLA, Township Landscape Architect (email)

RE: Amended First Landscape Plan Review for Olive Garden, 2402 Easton Road, Upper Moreland Township, Montgomery County, PA; M&F No. 215

Dear Ms. Flanders,

We are in receipt of the Amended First Landscape Plan Review Letter for Olive Garden, 2402 Easton Road, Upper Moreland Township, Montgomery County, PA (M&F No. 215) dated July 8, 2022. Please find enclosed responses to the previously mentioned documents.

General Comments

Comment 1 *The Limit of Disturbance (LOD) shown on the Landscape Plan does not match the LOD shown on other drawings. Applicant should coordinate and show correct LOD.*

Response 1 **Completed. All plans now reflect the same limit of disturbance.**

Comment 2 *The existing screen fence along the southern property boundary requires some maintenance. Existing is a chain link fence with vertical vinyl slats. There are several areas where the horizontal bonding strip that supports these slats is missing, and no support is provided for the slats. Many of the slats have dropped down randomly in these areas. These areas should be repaired to maintain the screening value and appearance of this fence, or a new fence installed.*

Response 2 **Completed. Please Refer to the Site Note #10 on the Civil Site Plan / Dimensional Control Plan (Sheet C5.1).**

Landscape Plan Requirements (Article 5, Section 300-42)

Comment 1 *All plant materials shall be guaranteed by the developer for eighteen (18) months following final written approval by the Landscape Architect or Township engineer. (Section 300-40 G.) Landscape Specifications Section 6.01 is to be revised accordingly.*

Response 1 **Completed. Please Refer to the revised Landscape Specifications (Sheet LS1).**

Comment 2 *In addition to the height of trees and shrubs at time of planting shown on the plan, the plant schedule is to be revised to include minimum plant spread for trees shrubs at installation. (Section 300-42 K.)*

Response 2 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Comment 3 *The plant schedule is to be revised to indicate Native Species plant material intended to satisfy minimum native species requirements. (Section 300-42 K. and Table 3)*

Response 3 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Comment 4 *Tree stakes are to be installed for a period of twelve months and are to be removed prior to the End of Guarantee. A note is to be added to the specifications on sheet LS1. (Section 300-42 M.)*

Response 4 **Completed. Please Refer to the revised Landscape Specifications (Sheet LS1).**

Comment 5 *A detailed landscape cost estimate is to be included with the final landscape plan submission for determination of the escrow fund. The estimate is to include the guarantee as well as the labor, material, installation and maintenance cost. (Section 300-42 Q.) Estimate is to identify Shade tree caliper size and minimum height for Ornamental trees, Evergreen trees, and shrubs at the time of planting that meet or exceed minimum required sizes. It is to be sent to the Township Engineer with a copy to this office.*

Response 5 **Completed. A detailed landscape cost estimate is included this submission.**

Comment 6 *"Landscape Calculations" Table:*

6.1. "Shade Trees" category should be renamed to "Street Trees".

6.2. It appears that proposed trees are being counted toward meeting minimum requirements for more than one landscape category, which is not acceptable. Calculations are to be revised accordingly.

Response 6 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Comment 7 *In addition, the provided compliance chart should be revised to comply with the following review comments.*

Response 7 **Comment Acknowledged.**

Planting Requirements (Article 5, Section 300-43)

A - Street Trees (Section 300-43, A.)

Comment 1 *Existing street trees are proposed to be preserved.*

Response 1 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Comment 2 *Except as noted below in C., 4, existing powerlines along Easton Road prevent installation of additional street trees beyond those previously proposed on prior development and as now exist.*

Response 2 **Comment Acknowledged.**

B - Screen Buffer (Section 300-43, C.)

Existing Screen Buffer at residential boundary is in poorly maintained condition. Arborvitae screen is failing due to competition with larger existing deciduous, evergreen and invasive trees.

Comment 1.1 *Where arborvitae are to remain, conflicting overhanging branches from deciduous trees should be removed.*

Response 1.1 **Comment Acknowledged.**

Comment 1.2 *Invasive species trees should be removed.*

Response 1.2 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Comment 1.3 *Dead arborvitae should be replaced with shade tolerant evergreen and deciduous shrubs that will attain a mature height of 8 feet.*

Response 1.3 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Comment 1.3.1 *9 dead arborvitaes were noted during our review. Gaps for 5 additional shrubs were noted for a total of 14 shrubs recommended.*

Response 1.3.1 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Comment 1.3.2 *A minimum of 25% of the proposed shrubs must be native or adaptive per Table 3.*

Response 1.3.2 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Comment 1.3.3 *A minimum of 50% of the shrubs should be evergreen per 300-43 C (4)(a).*

Response 1.3.3 Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).

C - Parking Area Landscaping (Section 300-43, D.), Individual Lot Landscaping (Section 300-43, G.)

Comment 1 *Existing Red Maple tree (in poor condition) in island at Sycamore Road entrance (NW of Olive Garden) conflicts with proposed location of one 27' tall light standard. We recommend removal of this tree and replacement with a columnar form shade tree shifted further from the proposed light standard.*

Response 1 Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).

Comment 2 *The proposed plans show rows of parking of 15, 18, 19 and 25 spaces which exceed the 12-space maximum per Section 300-43, D (2). The 18, 19 and 25 are pre-existing non-conforming conditions. The proposed row of 15 parking spaces is in front of the building, where currently 14 spaces exist. Therefore, a waiver appears necessary.*

Response 2 A waiver for the above requirement is being requested.

Comment 2.1 *While this increases the existing non-conformity, we note that the parking row is adjacent to landscaped greenspace between the proposed building and sidewalk, and the parking field overall is not a "sea" of parking.*

Response 2.1 Comment Acknowledged.

Comment 2.2 *Furthermore, there is one extra island existing near the residential buffer that could be applied to offset one of the required islands. It is likely that this island was previously constructed to enhance the buffer yard.*

Response 2.2 Comment Acknowledged.

Comment 3 *Existing 4-Foot-Wide Islands shown to Remain:*

Response 3 Comment Acknowledged.

Comment 3.1 **I***n prior landscape plans for this site there were two shade trees in each of the 4-foot wide parking lot islands in the rear parking lot.*

Response 3.1 Comment Acknowledged.

Comment 3.2 *One existing 4" DBH Red Maple tree shown to remain (SE corner); last remaining tree in 4' wide island is dead and should be removed.*

Response 3.2 Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).

Comment 3.3 *Existing 4" DBH Red Maple tree shown at south end of other 4' wide double island is in poor condition, leaning into parking space area and should be removed.*

Response 3.3 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Comment 3.4 *Existing 4' wide island is adequate for the proposed light standards but not adequate to sustain large parking lot trees. We recommend consideration of the following options:*

Response 3.4 **Comment Acknowledged.**

Comment 3.4.1 *Option 1: Widen half of each of the 4' wide islands on the south end of each island from 4' to 13' to provide an adequate planting area for one drought tolerant shade tree in each island. The light standards could then be moved north within the remaining 4' wide island area to reduce conflict with these trees.*

Response 3.4.1 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Comment 3.4.2 *Option 2: Plant 4 small-form shade trees (2 in each island) that will not overgrow these cramped planting spaces. Recommended tree is Queen Elizabeth Hedge Maple, aka Acer campestre 'Evelyn' or Acer campestre 'JFS Schichtel2', Streetside Maple. These 2 varieties of Hedge Maples are small drought-tolerant trees with an upright branching habit.*

Response 3.4.2 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Comment 4 *Planting islands are to be a minimum of 15 feet wide and 20 feet long. A minimum of one single trunked shade tree is to be placed in each island. (Section 300-43 D. (1) (d)).*

Response 4 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Comment 4.1 *One shade tree should be added at the end of the 5-space parking row North of the Olive Garden where a tree is being removed as part of this application.*

Response 4.1 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Comment 4.2 *Proposed islands are less than the 15' width required. Therefore, it appears that a waiver from these requirements will be necessary unless the parking count can be reduced to widen islands. We note that three proposed end islands near the building, while not meeting the 15' width, are wider than existing.*

Response 4.2 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Comment 4.3 *Where islands are less than 300 SF in area, permanent landscape irrigation is required per Section 300-43, D(1)(e), or a waiver requested, with justification.*

Response 4.3 **Irrigation plans have been included in this resubmission and are attached at the end of the plan set.**

Comment 5 *A minimum of 30% of parking lot trees are required to be native or adaptive per Table 3.*

Response 5 **Completed. Please Refer to the revised Landscape Planting Plan (Sheet L1.1).**

Replacing Trees Destroyed By Development (Article 5, Section 300-45)

Comment 1 *Trees proposed to be removed are assumed to be Parking Lot landscaping and Individual Lot Landscaping that were required trees per the previous development of this site. As such, we recommend that the Applicant, at a minimum, be required to replace the quantity of trees removed and previously proposed, as discussed more in detail within this review. If this approach is taken, we would not be opposed to a waiver of replacement tree requirements.*

Response 1 **Comment Acknowledged.**

If you should have any questions or require additional information, please do not hesitate to contact me at (813) 319-8747 or bsearcy@core-states.com.

Sincerely,



Brian Searcy, P.E.
Regional Director of Civil Engineering

August 18, 2022

Chad Dixson, AICP, PP
Senior Project Manager
McMahon Associates, Inc.
425 Commerce Drive, Suite 200
Fort Washington, PA 19034

CC: Mr. Paul Purtell, Director of Code Enforcement
Matthew Candland, Upper Moreland Township Manager
Jim Hersh, P.E., Gilmore & Associates

RE: Traffic Review #1 – Preliminary/Final Land Development Plans
Olive Garden – 2402 Easton Road (S.R. 0611)
Upper Moreland Township, Montgomery County, PA
McMahon Project No. 822632.11

Dear Mr. Dixson,

We are in receipt of the Traffic Review #1 Letter for the Preliminary/Final Land Development Plans for Olive Garden – 2402 Easton Road (S.R. 0611) located in Upper Moreland Township, Montgomery County, PA (McMahon Project No. 822632.11) dated July 6, 2022. Please find enclosed responses to the previously mentioned documents.

Comment 1 *Although the driveways along Easton Road (S.R. 0611) and Sycamore Avenue are existing, sight distance measurements should be depicted on the plans for these driveway locations.*

Response 1 **The western driveway along Easton Road is a right-in only. The other driveway's sight distance have been added to the Vehicular Access Plan (Sheet C5.2).**

Comment 2 *The ultimate right-of-way lines along the Easton Road (S.R. 0611) site frontage should be labeled on the plans and be in accordance with Section 300-15.B(1)(b) of the Subdivision and Land Development Ordinance.*

Response 2 **Completed. Please Refer to the Demolition Plan (Sheet C4.1) and Civil Site Plan / Dimensional Control (Sheet C5.1).**

Comment 3 *A note should be added to the plans stating the area between the existing right-of-way line and the ultimate right-of-way line shall be offered for dedication to the authority having jurisdiction over the road as required in Section 300-15.C(3) of the Subdivision and Land Development Ordinance.*

Response 3 **Please Refer to the Site Note #9 under Site Notes on the Civil Site Plan / Dimensional Control (Sheet C5.1).**

Comment 4 *Planned roadway improvements on Easton Road (S.R. 0611) may require minor widening along the site frontage of the Olive Garden. The improvement may require right-of-way from the applicant outside of the existing right-of-way. We recommend that the Township discuss this issue further with the applicant to ensure the needed right-of-way for the Easton Road (S.R. 0611) can be secured as part of the land development process or at a future time.*

Response 4 **Comment Acknowledged.**

Comment 5 *According to Section 300-17.H of the Subdivision and Land Development Ordinance, no less than a five-foot curb radius shall be permitted in parking areas. It appears as though some of the curb radii located in the parking area adjacent to the proposed Olive Garden restaurant are less than five feet, thereby not satisfying the ordinance requirement.*

Response 5 **Completed. Please Refer to the Civil Site Plan / Dimensional Control (Sheet C5.1).**

Comment 6 *According to Section 300-18 of the Subdivision and Land Development Ordinance, sidewalk should be provided along all streets. The plan currently does not show any sidewalk along the Easton Road (S.R. 0611) site frontage, thereby not satisfying the ordinance requirement.*

Response 6 **Comment Acknowledged. A waiver is being requested for the required sidewalk along Easton Road due to the existing width of the sidewalk, existing landscaping, and existing utility poles. There is also pending PennDOT road widening plan in the area.**

Comment 7 *According to Section 350-178.B(7) of the Zoning Ordinance, the greater of one parking space per every two seats or one parking space per 50 square feet of gross floor devoted to use by patrons plus one parking space per employee on the largest shift is the required amount of parking for a restaurant. Based on the square footage of the proposed Olive Garden restaurant and the number of employees expected on the largest shift, 158 parking spaces are required for the proposed restaurant. The plans currently show 158 parking spaces, thereby satisfying the ordinance requirement.*

Response 7 **Comment Acknowledged.**

Comment 8 *According to ADA standards, a minimum of six ADA parking spaces are required for this site. The plans currently show six ADA parking spaces, thereby satisfying ADA standards.*

Response 8 **Comment Acknowledged.**

Comment 9 *The applicant should confirm that the largest delivery truck expected to use the site is a WB-40 vehicle as currently shown on the truck turning template.*

Response 9 **This comment is confirmed.**

Comment 10 *Turning templates should be provided with future plan submissions demonstrating the ability of a trash truck to maneuver into and out of the Easton Road (S.R. 0611) and Sycamore Avenue driveways, into and out of the dumpster area.*

Response 10 **Completed. Please Refer to the Vehicular Access Plan (Sheet C5.3).**

Comment 11 *The Township Fire Marshal should review the emergency vehicle turning templates for accessibility and circulation needs of emergency apparatus. Ensure that any correspondence, including any review comments and/or approvals, is included in subsequent submissions.*

Response 11 **Comment Acknowledged.**

Comment 12 *The applicant should provide details on when deliveries will occur for the proposed Olive Garden restaurant. In order to minimize the interaction between delivery vehicles and customer vehicles, it is recommended that the applicant limit these services to outside normal operating hours.*

Response 12 **Completed. Please Refer to Keynote "AJ" on the Civil Site Plan / Dimensional Control (Sheet C5.1) and Delivery Note #1 on the Vehicular Access Plan (Sheet C5.2).**

Comment 13 *Due to the existing angle of the northern driveway along Easton Road (S.R. 0611), it is recommended that this driveway become a right-in only driveway. "One-Way" signs should be shown on the plans on both sides of the eastern end of this driveway where it intersects Easton Road (S.R. 0611) and "Do Not Enter" signs should be shown on the plans on both sides of the western end of this driveway where it intersects the drive aisle to the east of the proposed restaurant.*

Response 13 **Completed. Please Refer to Keynote "AL" & "AM" on the Civil Site Plan / Dimensional Control (Sheet C5.1).**

Comment 14 *Review of the on-site ADA ramps has not been completed by our office, but these ramps must be designed by the applicant's engineers to comply with Federal/PennDOT design standards for ADA facilities.*

Response 14 **Comment Acknowledged.**

Comment 15 *All existing and proposed signs should be clearly labeled on the plans.*

Response 15 **Completed. Please Refer to Keynote G & AA on the Demolition Plan (Sheet C4.1) & Keynote I, J, N, AK, AL & AM on the Civil Site Plan / Dimensional Control (Sheet C5.1).**

Comment 16 *A "Stop" sign and stop bar should be shown on the plans on the driveway approaches to Easton Road (S.R. 0611) and Sycamore Avenue.*

Response 16 **Completed. Please Refer to Keynote AK on the Civil Site Plan / Dimensional Control (Sheet C5.1). There is an existing stop sign and bar that was not previously depicted on the plans at the Sycamore Avenue exit. These are to remain as existing.**

Comment 17 *A "Stop" sign should be shown on the plans at the stop bar shown on the plans on the southbound approach of the driveway leading to/from Sycamore Avenue at its intersection with the drive aisle to the north of the proposed restaurant.*

Response 17 **Completed. Please Refer to Keynote AK on the Civil Site Plan / Dimensional Control (Sheet C5.1).**

Comment 18 *The applicant should coordinate with SEPTA and the Township about the location and existing conditions of the existing bus stop located at the corner of southern driveway along Easton Road (S.R. 0611). Both parties should discuss to determine if there is a more desirable location for the bus stop, and whether additional bus stop amenities should be installed, such as an ADA-compliant bus loading landing.*

Response 18 **Comment Acknowledged.**

Comment 19 *The proposed development will be subject to the Township's Transportation Impact Fee of $1,904 per "new" afternoon peak hour trip in accordance with the Township's Transportation Impact Fee Ordinance. Based on Land Use Code 932 (High-Turnover Sit-Down Restaurant) in ITE's publication, Trip Generation Manual, 11th Edition, the existing 7,127 square-foot Brick House Tavern would be expected to generate 37 "new" trips during the weekday afternoon peak hour and the proposed 6,501 square-foot Olive Garden restaurant would be expected to generate 34 "new" trips during the weekday afternoon peak hour. Therefore, the proposed Olive Garden restaurant is not subject to the transportation impact fee because it can be expected to generate fewer "new" trips during the weekday afternoon peak hour than the previous use of the site.*

Response 19 **Comment Acknowledged.**

Comment 20 *A PennDOT Highway Occupancy Permit is required for any modifications located within the right-of-way of Easton Road, since Easton Road (S.R. 0611) is a State Roadway. If the applicant pursues any work within the legal PennDOT right of way, the Township and our office must be copied on all correspondence and submissions to PennDOT, as well as invited to any meetings between the applicant and PennDOT.*

Response 20 **There are no proposed modifications within the right-of-way of Easton Road. Thus, no submission is required to PennDOT.**

Comment 21 *A response letter must be provided with the resubmission detailing how each comment below has been addressed, and where each can be found in the resubmission materials (i.e., page number(s)) to assist in the re-review process. Additional comments may follow upon review of any resubmitted materials during the land development process.*

Response 21 **Complete. This document shall serve as the aforementioned response letter.**

If you should have any questions or require additional information, please do not hesitate to contact me at (813) 319-8747 or bsearcy@core-states.com.

Sincerely,



Brian Searcy, P.E.
Regional Director of Civil Engineering

August 18, 2022

Claire Warner,
Community Planner II
Montgomery County Planning Commission
Montgomery County Courthouse
Po Box 311
Norristown, PA 19404-031

CC: Mr. Paul Purtell, Director, Code Enforcement
Sandi LeBlanc, Olive Garden Holdings LLC, Applicant's Representative
Brian Searcy, Core States Group, Applicant's Engineer
Larosa Real Estate Investment Partnership LP
Gerald Foley, Chair, Township Advisory Planning Agency
Matt Candland, Manager, Upper Moreland Township

RE: Re: MCPC # 22-0159-001
Plan Name: Olive Garden
(1 lot comprising approximately 2 acres)
Situate: 2402 Easton Road (cross streets: Sycamore Avenue and Mill Road)
Upper Moreland Township

Dear Ms. Warner,

We are in receipt of the Review Letter for MCPC # 22-0159-001 - Olive Garden located at 2402 Easton Road in Upper Moreland Township dated July 6, 2022. Please find enclosed responses to the previously mentioned documents.

Comprehensive Plan Compliance

Comment 1 *MONTCO 2040 – The proposal is generally consistent with the county's comprehensive plan, MONTCO 2040: A Shared Vision, which shows the proposed area as "Community Mixed Use and Services Area". Community Mixed Use areas are designed to serve as local destinations for retail and services. Upper Moreland 2040 Comprehensive Plan – The property is located in the Commercial Mixed Use future land use area. The comprehensive plan states that commercial mixed use areas consist primarily of suburban style "strip commercial" development. Pedestrian connectivity and design should be enhanced while respecting the area's suburban character.*

Response 1 **Comment Acknowledged. A waiver is being requested for the required sidewalk along Easton Road due to the existing width of the sidewalk, existing landscaping, and existing utility poles. There is also pending PennDOT road widening plan in the area.**

Review Comments – Non-Conforming Use

Comment A *The property is split-zoned, located in both the C-2 Commercial and M-Multiple Dwelling zoning districts. Restaurant uses are permitted in the C-2 District by Special Exception (§*

350-75), but are not permitted in the M-District. The proposed restaurant would be a continuation of the previous use; therefore, the proposed use would be an existing nonconforming use that would be required to adhere to the standards of Article XXVII Nonconforming Use § 350-223. We do not find issue with the continuation of the use, and defer to the township zoning officer to determine if it is appropriate to classify the property as an existing nonconforming use.

Response A **Comment Acknowledged.**

Review Comments – Impervious Coverage

Comment A *Proposed New Impervious Coverage. The proposed development appears to have less impervious coverage (79.4%) than the existing conditions (81.5%), which is supported by the impervious coverage calculations on Sheet no. C5.1. However, the chart also lists 34,096 square feet, or 0.78 acre, of "proposed new imperious coverage." The calculations do not appear to match with the total area (87,151 square feet), and it is not clear on the plans where the 34,096 square feet of proposed additional imperious coverage would be located on the site. If there is a significant amount of new impervious as this chart suggests (Sheet no. C5.1), there may need to be additional stormwater management controls to mitigate the additional coverage. We commend the applicant for proposing BMPs and underground stormwater detention basin. We defer to the township to determine if there are flooding or other stormwater issues on the site. If there are existing issues, this may be an appropriate time to see if they could be addressed.*

Response A **The total impervious coverage has been decreased in proposed conditions compared to existing conditions. The proposed new impervious coverage is a term in the Stormwater Management Ordinance for Upper Moreland Township and is defined as any impervious coverage proposed on the site, even if the proposed impervious coverage is replacing existing impervious coverage. This term is different than impervious coverage and is shown on the plans to demonstrate compliance with the Stormwater Management Ordinance.**

The stormwater area to be considered for the proposed BMP has been discussed and agreed upon with the Township Engineer.

Review Comments – Streetscape

Comment A *Sidewalk and Street Trees. There is no sidewalk currently along the Easton Road frontage of the property. The township's Subdivision and Land Development Ordinance (SALDO) requires that sidewalks be provided along all streets (§ 300-18). The abutting property to the north has sidewalks, as do other properties on both sides of Easton Road. We support the continuation of sidewalks in order to enhance pedestrian connectivity, and feel that this land development creates an opportunity to contribute to the furtherance of the pedestrian network.*

Response A **A waiver is being requested for the required sidewalk along Easton Road due to the existing width of the sidewalk, existing landscaping, and existing utility poles. There is also pending PennDOT road widening plan in the area.**

Comment B *Street Trees. We commend the applicant for proposing to preserve two existing trees along the Easton Road frontage. However, we support the planting of additional trees to provide shade for the parking area and recommended sidewalk. The township SALDO requires street trees to be planted when a sidewalk is constructed (§ 300-43.A). Due to the location of the parking area in relation to Easton Road, there may not be space to have both a sidewalk and street trees. In order to accommodate additional trees, we recommend the applicant consider adding trees to planting islands along the frontage of the property. Parking lot planting islands are required every twelve parking spaces (§ 300-43.D); the proposed parking lot would maintain the existing layout with 19 parking spaces in a row along the property frontage. We suggest that this length of a parking row would benefit from a planting island.*

Response B **In regard to the street trees along Easton Road, below is an excerpt from the Township Landscape Review:**

"Existing powerlines along Easton Road prevent installation of additional street trees beyond those previously proposed on prior development and as now exist."

In regard to the parking lot planting islands, the landscape plan has been updated to conform to the Township Landscape Review or waivers will be requested.

Comment B-1 *Parking. The applicant is proposing fewer parking spaces than what is currently provided on the property, and would meet the parking requirements for the restaurant use, per § 350-178.B(7). In order to make the additional room that would be needed to accommodate the street trees, however, we suggest that the township coordinate with the applicant to determine if it would be feasible to reduce the amount of parking.*

Response B-1 **Comment Acknowledged.**

If you should have any questions or require additional information, please do not hesitate to contact me at (813) 319-8747 or bsearcy@core-states.com.

Sincerely,



Brian Searcy, P.E.
Regional Director of Civil Engineering

Olive Garden Italian Kitchen
2402 Easton Road, Willow Grove, PA 19090
Opinion of Probable Cost

Submitted To: Upper Moreland Township
117 Park Avenue
Willow Grove, PA 19090
Attn: James J. Hersh, P.E.
Senior Project Manager

CoreStates, Inc.
201 S. Maple Avenue
Suite 300
Ambler, PA 19002
267.529.3660

Item	Quantity	Unit	Cost per Unit	Amount
Demolition				
Clearing & Grubbing	0.77	Acre	$ 800.00	$ 616.00
Remove Existing Curb, Walks & Pavement	22,923	S.F.	$ 2.00	$ 45,846.00
Building Demolition	7,127	S.F.	$ 5.00	$ 35,635.00
			Site Prep Subtotal	$ 82,097.00
Erosion & Sediment Control				
12" Compost Filter Sock	950	LF	$ 3.50	$ 3,325.00
Inlet Protection	11	ea	$ 175.00	$ 1,925.00
Concrete Washout	1	ea	$ 200.00	$ 200.00
Final Stabilization & Grading	1	ea	$ 8,000.00	$ 8,000.00
			Erosion & Sediment Subtotal	$ 13,450.00
Site Construction				
Asphalt Pavement	22,672	S.F.	$ 1.00	$ 22,672.00
Concrete Curb	787	LF	$ 18.00	$ 14,166.00
Concrete Walkways	4,134	S.F.	$ 6.50	$ 26,871.00
Concrete Parking Pavement	3793	S.F.	$ 20.00	$ 75,860.00
			Site Construction Subtotal	$ 139,569.00
Stormwater Management				
6" PVC Roof Drain Pipe	342	LF	$ 40.00	$ 13,680.00
18" HDPE Storm Pipe	486	LF	$ 40.00	$ 19,440.00
6" 45 Elbow	4	ea	$ 60.00	$ 240.00
6" WYE	4	ea	$ 80.00	$ 320.00
6" WYE with Cleanout	1	ea	$ 100.00	$ 100.00
Downspout Boot	8	ea	$ 100.00	$ 800.00
Precast PennDOT Type C Inlet Box	4	ea	$ 2,120.00	$ 8,480.00
Precast PennDOT Type M Inlet Box	2	ea	$ 2,120.00	$ 4,240.00
Precast Storm Manhole	10	ea	$ 2,100.00	$ 21,000.00
12" Nyloplast Yard Drain	4	ea	$ 500.00	$ 2,000.00
Inserta Tee	3	ea	$ 500.00	$ 1,500.00
Outfall Control Structure	1	ea	$ 3,000.00	$ 3,000.00
			Stormwater Subtotal	$ 70,300.00
Sanitary Sewer				
6" PVC Sanitary Pipe	120	LF	$ 35.00	$ 4,200.00
6" WYE with Cleanout	5	ea	$ 120.00	$ 600.00
6" WYE	1	ea	$ 120.00	$ 120.00
Grease Interceptor	2	ea	$ 500.00	$ 1,000.00
Connection to existing Manhole	1	ea	$ 1,000.00	$ 1,000.00
			Sanitary Subtotal	$ 6,920.00
Miscellaneous Site Features				

Pavement Markings	1	Lump Sum	$ 9,000.00	$ 9,000.00
Site Lighting	1	Lump Sum	$ 20,000.00	$ 20,000.00
Bench	4	ea	$ 500.00	$ 2,000.00
Trash Enclosure	2	ea	$ 5,000.00	$ 10,000.00
Detectable Warning Surface	8	ea	$ 500.00	$ 4,000.00
Traffic Control Signs	11	ea	$ 175.00	$ 1,925.00
		Miscellaneous Subtotal		$ 46,925.00
Landscaping				
Refer to Landscape Cost Estimate Attached	1	ea	$ 28,442.50	$ 23,835.65
		Landscaping Subtotal		$ 23,835.65
		Subtotal (All Sections)		$ 383,096.65
		Engineering &Contingency (10%)		$ 38,309.67
		Total		$ 421,406.32

Brian Searcy, P.E.
PA License No. PE083256

EVERGREEN
DESIGN GROUP

Project: Olive Garden – 2402 Easton Road, Willow Grove, Township of Upper Moreland, PA.
Prepared by: Eric Shepley

Date: 08-18-2022

Olive Garden			Unit		Extended
	Qty		Cost		Cost
TREES					
1.5" cal. Queen Elizabeth Hedge Maple	4		$ 350.00		$ 1,400.00
3" cal Red Sunset Maple	4		$ 500.00		$ 2,000.00
3" cal Armstrong Gold Red Maple	2		$ 500.00		$ 1,000.00
1.5" cal Eastern Redbud	2		$ 350.00		$ 700.00
1.5" cal Kousa Dogwood	2		$ 350.00		$ 700.00
1.5" cal American Holly	14		$ 350.00		$ 4,900.00
3" cal Tulip Poplar	2		$ 500.00		$ 1,000.00
6' Emerald Arborvitae	13		$ 350.00		$ 4,550.00
SHRUBS					
3 gal Rose Creek Abelia	21		$ 38.50		$ 808.50
3 gal Limelight Hydrangea	6		$ 38.50		$ 231.00
5 gal Inkberry	30		$ 42.50		$ 1,275.00
3 gal Variegated Miscanthus	13		$ 38.50		$ 500.50
5 gal Arrowwood Viburnum	14		$ 42.50		$ 595.00
5 gal Very Fine Wine Weigela	43		$ 42.50		$ 1,827.50
Ground Covers					
Kentucky Bluegrass Sod - sf	1,971		$ 0.65		$ 1,281.15
4" pot Creeping Lilyturg	238		$ 3.50		$ 833.00
OTHER					
Steel Edging - lf	78		$ 3.00		$ 234.00
				TOTAL	**$ 23,835.65**
Estimate includes the guarantee as well as the labor, material, installation and maintenance cost.					



FRONT ELEVATION

STONE VENEER
CORONADO STONE
APPALACHIAN FIELDSTONE
"MOUNTAIN SUNSET"

STONE VENEER
CORONADO STONE
ROUGH CUT WOODSTONE
"RUSTIC CEDAR"

CONCRETE ROOF TILE
EAGLE ROOF TILE
CAPISTRANO
"OLIVE GARDEN BLEND"

STANDING SEAM METAL ROOF
DURO-LAST
"MEDIUM BRONZE"

PAINT (WOOD TRIM & FASCIA)
BENJAMIN MOORE
2112-10 "MINK"

BRICK VENEER
CORONADO STONE
SICILIAN BRICK 2 1/2" X 8"
90% "SALTILLO", 10% "FERRARA BLEND"

PRE-FINISH PAINT
(DOORS & WINDOWS)
"DARK BRONZE"

BRICK CLINKERS
CORONADO STONE
THIN TUMBLED BRICK 2 1/8" X 8"

Olive Garden
ITALIAN KITCHEN

ITALIAN RESTAURANT

Willow Grove, PA

0 5 10 20

ACS Architectural Construction Services Inc

File Name: OG-Willow Grove, PA - Color Elevations

08-03-22



BACK ELEVATION

STONE VENEER
CORONADO STONE
APPALACHIAN FIELDSTONE
"MOUNTAIN SUNSET"

STONE VENEER
CORONADO STONE
ROUGH CUT WOODSTONE
"RUSTIC CEDAR"

CONCRETE ROOF TILE
EAGLE ROOF TILE
CAPISTRANO
"OLIVE GARDEN BLEND"

STANDING SEAM METAL ROOF
DURO-LAST
"MEDIUM BRONZE"

PAINT (WOOD TRIM & FASCIA)
BENJAMIN MOORE
2112-10 "MINK"

BRICK VENEER
CORONADO STONE
SICILIAN BRICK 2 1/2" X 8"
90% "SALTILLO", 10% "FERRARA BLEND"

PRE-FINISH PAINT
(DOORS & WINDOWS)
"DARK BRONZE"

BRICK CLINKERS
CORONADO STONE
THIN TUMBLED BRICK 2 1/8" X 8"

ITALIAN RESTAURANT

Willow Grove, PA

0 5 10 20

ACS Architectural Construction Services Inc

File Name: OG-Willow Grove, PA - Color Elevations

08-03-22



RIGHT ELEVATION

STONE VENEER
CORONADO STONE
APPALACHIAN FIELDSTONE
"MOUNTAIN SUNSET"

STONE VENEER
CORONADO STONE
ROUGH CUT WOODSTONE
"RUSTIC CEDAR"

CONCRETE ROOF TILE
EAGLE ROOF TILE
CAPISTRANO
"OLIVE GARDEN BLEND"

STANDING SEAM METAL ROOF
DURO-LAST
"MEDIUM BRONZE"

PAINT (WOOD TRIM & FASCIA)
BENJAMIN MOORE
2112-10 "MINK"

BRICK VENEER
CORONADO STONE
SICILIAN BRICK 2 1/2" X 8"
90% "SALTILLO", 10% "FERRARA BLEND"

PRE-FINISH PAINT (DOORS & WINDOWS)
"DARK BRONZE"

BRICK CLINKERS
CORONADO STONE
THIN TUMBLED BRICK 2 1/8" X 8"

ITALIAN RESTAURANT

Willow Grove, PA

0 5 10 20

ACS Architectural Construction Services Inc

File Name: OG-Willow Grove, PA - Color Elevations

08-03-22



LEFT ELEVATION

STONE VENEER
CORONADO STONE
APPALACHIAN FIELDSTONE
"MOUNTAIN SUNSET"

STONE VENEER
CORONADO STONE
ROUGH CUT WOODSTONE
"RUSTIC CEDAR"

CONCRETE ROOF TILE
EAGLE ROOF TILE
CAPISTRANO
"OLIVE GARDEN BLEND"

STANDING SEAM METAL ROOF
DURO-LAST
"MEDIUM BRONZE"

PAINT (WOOD TRIM & FASCIA)
BENJAMIN MOORE
2112-10 "MINK"

BRICK VENEER
CORONADO STONE
SICILIAN BRICK 2 1/2" X 8"
90% "SALTILLO", 10% "FERRARA BLEND"

PRE-FINISH PAINT
(DOORS & WINDOWS)
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File Name: OG-Willow Grove, PA - Color Elevations

08-03-22

DESIGN AND DEVELOPMENT CONTACTS:

OWNER:	LAROSA REAL ESTATE INVESTMENT PARTNERSHIP LP 404 DAVISVILLE ROAD WILLOW GROVE, PA 19090 CONTACT: DAMIEN LAROSA TEL: 215-659-5555
DEVELOPER:	DARDEN CORPORATION 1000 DARDEN CENTER DRIVE, ORLANDO, FL 32837 CONTACT: SHANNON DUNN TEL: 407-458-8318
CIVIL ENGINEER:	CORE STATES GROUP 201 SOUTH MAPLE AVENUE, SUITE 300 AMBLER, PA 19002 CONTACT: BRIAN SEARCY, P.E. TEL: 813-319-8747
ARCHITECT:	ACS ARCHITECTS 101 SHIPYARD WAY - SUITE B NEWPORT BEACH, CA 92663 CONTACT: LARRY D. HIGA TEL: 714-436-9000 X 1540
LANDSCAPE ARCHITECT:	EVERGREEN DESIGN GROUP, INC. P.O. BOX 2193 GARNER, NC 27529 CONTACT: RODNEY MCNABB TEL: 800-680-6630 EXT # 1
SURVEYOR:	CIVIL & ENVIRONMENTAL CONSULTANTS, INC. 333 BALDWIN ROAD PITTSBURG, PA 15205 TEL: 412-429-2324

GOVERNING AGENCIES CONTACTS:

ZONING:	UPPER MORELAND TOWNSHIP 117 PARK AVENUE WILLOW GROVE, PA 19090 CONTACT: PAUL E. PURTELL TEL: 215-659-3100, EXT. 1035
PLANNING:	UPPER MORELAND TOWNSHIP 117 PARK AVENUE WILLOW GROVE, PA 19090 CONTACT: ELDA MAGGEO OR PAUL E. PURTELL TEL: 215-659-3100, 267-607-1034
BUILDING DEPARTMENT:	UPPER MORELAND TOWNSHIP 117 PARK AVENUE WILLOW GROVE, PA 19090 CONTACT: ROBERT ROSSER TEL: 215-659-3100, EXT. 1035
FIRE DEPARTMENT:	UPPER MORELAND FIRE DEPARTMENT STATION 10A 227 DAVISVILLE ROAD WILLOW GROVE, PA 19090 CONTACT: ED GLASSMAN TEL: 215-659-3100
TRAFFIC/ACCESS DEPARTMENT:	UPPER MORELAND TOWNSHIP ENGINEERING 117 PARK AVENUE WILLOW GROVE, PA 19090 CONTACT: PAUL E. PURTELL TEL: 215-659-3100

UTILITY CONTACTS:

SANITARY SEWER:	UMHJSA (UPPER MORELAND SEWER AUTHORITY) 2875 TERWOOD ROAD WILLOW GROVE, PA 19090-0535 TEL: 215-659-3975
WATER:	AQUA 2875 TERWOOD ROAD WILLOW GROVE, PA 19090-0535 TEL: 215-659-3975
STORM SEWER:	UPPER MORELAND TOWNSHIP 117 PARK AVENUE WILLOW GROVE, PA 19090 CONTACT: PAUL E. PURTELL TEL: 215-659-3100, EXT. 1035
GAS:	PECO 2301 MARKET STREET PHILADELPHIA, PA 19103 TEL: 1-800-494-4000
ELECTRIC:	PECO 2301 MARKET STREET PHILADELPHIA, PA 19103 TEL: 1-800-494-4000

ALERT TO CONTRACTOR:

1. THE SITE WORK FOR THE PROPOSED DEVELOPMENT SHALL MEET OR EXCEED ALL CITY AND/OR COUNTY AND STATE STANDARDS FOR SITE WORK.
2. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO PROJECT COMPLETION.

ITALIAN KITCHEN

PRELIMINARY/FINAL LAND DEVELOPMENT PLANS

FOR

OLIVE GARDEN ITALIAN KITCHEN

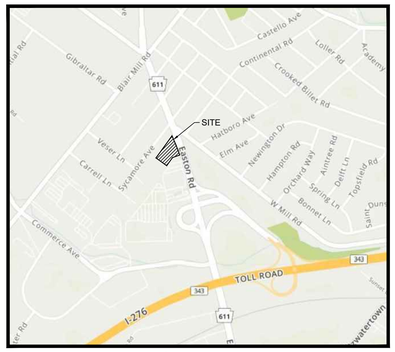
2402 EASTON ROAD

WILLOW GROVE, PA 19090

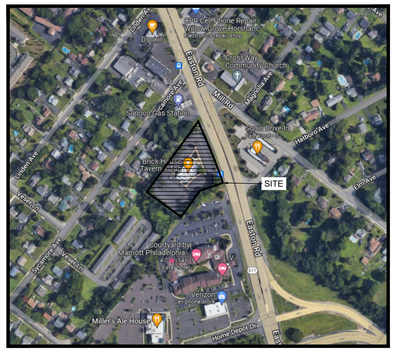
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C2.1	GENERAL CONSTRUCTION NOTES			
C3.1	EROSION AND SEDIMENT CONTROL PLAN	X		
C3.2	EROSION AND SEDIMENT CONTROL PLAN DETAILS	X		
C3.3	EROSION AND SEDIMENT CONTROL PLAN NOTES			
C4.1	DEMOLITION PLAN	X		
C5.1	CIVIL SITE PLAN / DIMENSIONAL CONTROL (TO BE RECORDED)	X		
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CS1	CIVIL SPECIFICATIONS			
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1 OF 1	ALTA/NSPS LAND TITLE SURVEY BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.			
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LS1	LANDSCAPE SPECIFICATIONS	X		
LI1.1	IRRIGATION PLAN			
LI1.2	IRRIGATION DETAILS & SPECIFICATIONS			
LI1.3	IRRIGATION SPECIFICATIONS			

CIVIL SITE PLAN/DIMENSIONAL CONSTRUCTION TO BE THE RECORD PLAN, ALL REMAINING PLAN SHEETS ON FILE AT UPPER MORELAND TOWNSHIP SHALL BE CONSIDERED PART OF THE FINAL RECORD PLAN AS IF RECORDED THE SAME.



VICINITY MAP
SCALE: 1" = 1000'



AERIAL MAP
SCALE: 1" = 300'

PROJECT DATA:

TOTAL SITE ACREAGE:	2.00 ACRES (87,151 SF)
DISTURBED AREA:	0.79 ACRES (34,324 SF)

THIS PROJECT IS NOT LOCATED WITHIN ANY KNOWN OVERLAY DISTRICT.

PROJECT DESCRIPTION:

THIS PROJECT PROPOSES THE DEMOLITION OF THE EXISTING "BRICK HOUSE TAVERN + TAP" AND THE CONSTRUCTION OF A GROUND-UP "OLIVE GARDEN" RESTAURANT. THE CONSTRUCTION ALSO INCLUDES THE REVISION OF THE ADA PARKING STALLS TO THE PARKING LOT IN THE FRONT OF THE PROPOSED BUILDING. THE ADA PARKING STALLS AND ACCESSIBLE PATH OF TRAVEL ARE DESIGNED PER THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN. THE CONTRUCTION ALSO INCLUDES PROPOSED SIDEWALKS, PARKING STALLS, DUMPSTER PAD, UNDERGROUND DETENTION / INFILTRATION BMP AND ASSOCIATED STORM SEWER.

FLOOD NOTE:

THIS PROPERTY IS LOCATED IN AN AREA. ZONE "X" OF THE FLOOD INSURANCE RATE MAP NUMBER 42091C0292G, EFFECTIVE DATE 03/02/2016 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.

ZONE "X UNSHADED" - AREA OF MINIMAL FLOOD HAZARD, USUALLY DEPICTED ON FIRM AS ABOVE THE 500-YEAR FLOOD LEVEL. ZONE X IS THE AREA DETERMINED TO BE OUTSIDE THE 500 YEAR FLOOD LEVEL. ZONE X IS THE AREA DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD AND PROTECTED BY LEVEE FROM A 100-YEAR FLOOD.

WAIVERS REQUESTED:

1. §300-17.D - NO LESS THAN 20 FEET OF OPEN SPACE SHALL BE PROVIDED BETWEEN THE CURB LINE OF ANY PARKING AREA AND THE OUTSIDE WALL OF THE BUILDING.
   A. A WAIVER IS BEING REQUESTED FROM THIS REQUIREMENT DUE TO EXISTING LOT LAYOUT RESTRAINTS AND PARKING REQUIREMENTS.
2. §300-18 -SIDEWALKS ARE REQUIRED TO BE INSTALLED ALONG ALL EXISTING STREETS THAT ABUT A LAND DEVELOPMENT.
   A. A WAIVER IS BEING REQUESTED FOR THE REQUIRED SIDEWALK ALONG EASTON ROAD DUE TO THE EXISTING WIDTH OF THE SIDEWALK, EXISTING LANDSCAPING, AND EXISTING UTILITY POLES. THERE IS ALSO PENDING PENNDOT ROAD WIDENING PLAN IN THE AREA.
3. §300-19.A(7) - ALL CURB SHOULD BE INSTALLED WITH AN 8-INCH REVEAL.
   A. A WAIVER IS BEING REQUESTED FOR THE ABOVE REQUIREMENT AND A 6-INCH REVEAL IS BEING REQUESTED.
4. §300-52.C(1) - THE LOCATION OF ALL EXISTING FEATURES WITHIN 400 FEET OF THE PROPERTY SHOULD BE ADDED TO THE PLANS.
   A. THE TOWNSHIP ENGINEER STATED THEY WOULD SUPPORT THIS WAIVER REQUEST PROVIDED THE APPLICANT INCLUDE AN AERIAL PLAN DEPICTING THE REQUIRED AREA TO THE PLAN SET. THE AERIAL PLAN HAS BEEN ADDED TO THE PLAN.
5. §300-43, D (2). - THE PROPOSED PLANS SHOW ROWS OF PARKING OF 15, 18, 19 AND 25 SPACES WHICH EXCEED THE 12-SPACE MAXIMUM PER SECTION 300-43, D (2). THE 18, 19 AND 25 ARE PRE-EXISTING NON-CONFORMING CONDITIONS. THE PROPOSED ROW OF 15 PARKING SPACES IS IN FRONT OF THE BUILDING, WHERE CURRENTLY 14 SPACES EXIST. THEREFORE, A WAIVER APPEARS NECESSARY.
   A. A WAIVER IS BEING REQUESTED FOR THE ABOVE REQUIREMENT.

Know what's below. Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED TO DETERMINE THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS BY MAKING ON-SOIGN DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, BY EXCAVATING AHEAD OF THE TRENCHING TO VERIFY THE EXACT LOCATION. BE AWARE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

CORE STATES GROUP
201 S. Maple Avenue
Ambler, PA 19002
Phone (215) 809-2125
BSearcy@core-states.com

DOCUMENTS PREPARED BY CORESTATES, INC., INCLUDING THIS DOCUMENT, ARE TO BE USED ONLY FOR THE SPECIFIC PROJECT AND SPECIFIC USE FOR WHICH THEY WERE INTENDED. ANY EXTENSION OF USE TO ANY OTHER PROJECTS, BY OWNER OR BY ANY OTHER PARTY, WITHOUT THE EXPRESSED WRITTEN CONSENT OF CORESTATES, INC. IS DONE UNLAWFULLY AND AT THE USERS OWN RISK. IF USED IN A WAY OTHER THAN THAT SPECIFICALLY INTENDED, USER WILL HOLD CORESTATES, INC. HARMLESS FROM ALL CLAIMS AND LOSSES.

ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED ENGINEER
BRIAN L. SEARCY
PROFESSIONAL ENGINEER

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date:	04.27.2022
REVISION INFORMATION	
1 08-18-2022 AGENCY REVISIONS	

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD
WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing

COVER SHEET

C1.1

User: CLANG Plot Date/Time: Aug. 18, 22 - 15:11:19 Drawing: C:\Users\clang\appdata\local\temp\AcPublish_15608\DAR.33982-P-DETL.dwg /C1.1 CV

STANDARD ABBREVIATIONS

AC	ACRES
ADA	AMERICANS WITH DISABILITY ACT
ARCH	ARCHITECTURAL
BC	BOTTOM OF CURB
BK	BLOCK
BL	BASELINE
BLDG	BUILDING
BOC	BACK OF CURB
BOL	BOLLARD
BM	BENCH MARK
CF	CUBIC FEET
CL	CENTERLINE
CMF	CONCRETE MONUMENT FOUND
CMP	CORRUGATED METAL PIPE
CONN	CONNECTION
CONC	CONCRETE
CY	CUBIC YARDS
DE	DRAINAGE EASEMENT
DEP	DEPRESSED
DIP	DUCTILE IRON PIPE
DOM	DOMESTIC
ELEC	ELECTRIC
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
EW	END OF WALL
EX	EXISTING
FES	FLARED END SECTION
FFE	FINISH FLOOR ELEVATION
FH	FIRE HYDRANT
G	GRADE
GRT	GRATE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
HOR	HORIZONTAL
HW	HEADWALL
INT	INTERSECTION
INV	INVERT
LF	LINEAR FOOT
LOC	LIMITS OF CLEARING
LOD	LIMITS OF DISTURBANCE
LOS	LINE OF SIGHT
LP	LOW POINT
LS	LANDSCAPE
MAX	MAXIMUM
ME	MATCH EXIST
MIN	MINIMUM
MH	MANHOLE
MJ	MECHANICAL JOINT
OC	ON CENTER
PC	POINT OF CURVATURE
PCCR	POINT OF COMPOUND CURVATURE, CURB RETURN
PI	POINT OF INTERSECTION
PKF	PK NAIL FOUND
POG	POINT OF GRADE
POI	POINT OF INTEREST
PROP	PROPOSED
PVC	POLYVINYL CHLORIDE PIPE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT OF WAY
S	SLOPE
SAN	SANITARY SEWER
SF	SQUARE FEET
SSE	SANITARY SEWER EASEMENT
STA	STATION
STM	STORM
TC	TOP OF CURB
TEL	TELEPHONE
TP	TREE PROTECTION
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
UP	UTILITY POLE
W/L	WATER LINE
W/M	WATER METER
±	PLUS OR MINUS
°	DEGREE
Ø	DIAMETER
#	NUMBER

GENERAL DEMOLITION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSAL (IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES) OF ALL STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, PARKING, DRIVES, DRAINAGE, STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE SPECIFICATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL DEBRIS FROM THE SITE AND DISPOSING THE DEBRIS IN A LAWFUL MANNER. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.
3. THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.
4. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ONSITE LOCATIONS OF EXISTING UTILITIES.
5. ALL EXISTING SEWERS, PIPING AND UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK. UTILITIES DETERMINED TO BE ABANDONED AND LEFT IN PLACE SHALL BE GROUTED.
6. ELECTRICAL, TELEPHONE, CABLE, WATER, FIBER OPTIC CABLE AND/OR GAS LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE TIME SHALL BE PROVIDED FOR RELOCATION. CLOSE COORDINATION WITH THE UTILITY COMPANY IS NECESSARY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE. CONTRACTOR SHALL PAY CLOSE ATTENTION TO EXISTING UTILITIES WITHIN ANY ROAD RIGHT-OF-WAY DURING CONSTRUCTION.
7. CONTRACTOR MUST PROTECT THE PUBLIC AT ALL TIMES WITH FENCING, BARRICADES, ENCLOSURES, ETC., (AND OTHER APPROPRIATE BEST MANAGEMENT PRACTICES) AS APPROVED BY OWNER.
8. CONTINUOUS ACCESS SHALL BE MAINTAINED FOR THE SURROUNDING PROPERTIES AT ALL TIMES DURING DEMOLITION OF THE EXISTING FACILITIES.
9. PRIOR TO DEMOLITION OCCURRING, ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED.
10. SHOULD REMOVAL AND/OR RELOCATION ACTIVITIES DAMAGE FENCING, LIGHTING AND/OR ANY OTHER APPURTENANCES, THE CONTRACTOR SHALL PROVIDE NEW MATERIALS/ STRUCTURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. EXCEPT FOR MATERIALS DESIGNED TO BE RELOCATED ON THIS PLAN, ALL OTHER CONSTRUCTION MATERIALS SHALL BE NEW.
11. CONTRACTOR SHALL LIMIT SAW-CUT & PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON THESE CONSTRUCTION PLANS BUT IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IT'S REMOVAL AND REPAIR.
12. THE CONTRACTOR SHALL COORDINATE WATER MAIN WORK WITH THE FIRE DEPT. AND THE CITY/COUNTY UTILITY DEPARTMENT TO PLAN PROPOSED IMPROVEMENTS AND TO ENSURE ADEQUATE FIRE PROTECTION IS CONSTANTLY AVAILABLE TO SITE THROUGHOUT THIS SPECIFIC WORK AND THROUGH ALL PHASES OF CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR ARRANGING/PROVIDING ANY REQUIRED WATER MAIN SHUT OFFS WITH THE CITY/COUNTY DURING CONSTRUCTION. ANY COSTS ASSOCIATED WITH WATER MAIN SHUT OFFS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION WILL BE PROVIDED.
13. DAMAGE TO ALL EXISTING CONDITIONS SHOWN TO REMAIN IN THESE PLANS WILL BE REPLACED AT CONTRACTOR'S EXPENSE.

GENERAL SITE NOTES:

1. ALL CONSTRUCTION MATERIALS AND TECHNIQUES OF INSTALLATION SHALL MEET PERFORMANCE VALUES OF THE MATERIALS SPECIFIED AND COMPLY WITH ALL CITY/COUNTY REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
2. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THIS PROJECT IS CONSTRUCTED IN ACCORDANCE WITH THESE DOCUMENTS AND IN COMPLIANCE WITH CODES INDICATED HEREIN. THE QUALITY OF WORKMANSHIP AND INSTALLATION OF MATERIALS SPECIFIED BY THE ARCHITECT/ENGINEER ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE ARCHITECT/ENGINEER WILL NOT BE HELD RESPONSIBLE FOR ANY SUBSTANDARD OR INSUFFICIENT WORKMANSHIP, MATERIALS, OR SERVICES PROVIDED IN THE EXECUTION OF ANY PHASE OF CONSTRUCTION OF THIS PROJECT.
3. ALL MATERIALS ARE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL MANUFACTURER'S WARRANTIES WILL BE HONORED.
4. ALL CONDITIONS SHOWN TO BE "EXISTING" SHALL BE VERIFIED IN THE FIELD BY THE GENERAL CONTRACTOR PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE NOTED AND SUBMITTED TO THE OWNER AND THE ARCHITECT/ENGINEER FOR REVIEW. CHANGES TO THE ORIGINAL DESIGN OF THE PROJECT DUE TO EXISTING SITE CONDITIONS MUST BE APPROVED BY BOTH THE OWNER AND THE ARCHITECT/ENGINEER PRIOR TO MAKING ANY CHANGES.
5. CONTRACTOR TO REVIEW AND FOLLOW CONSTRUCTION TECHNIQUES/SPECIFICATIONS OUTLINED IN THE SITE GEOTECHNICAL REPORT. ANY CONFLICTS WHICH MAY ARISE SHALL BE NOTED AND SUBMITTED TO THE OWNER AND THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
6. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING A THOROUGH KNOWLEDGE OF EXISTING FIELD CONDITIONS AND OF ALL DRAWINGS AND SPECIFICATIONS RELATED TO THEIR FIELD. THE FAILURE TO ACQUAINT HIMSELF WITH THIS PROJECT AND HIS FIELD OF SERVICE SHALL NOT RELIEVE HIM OF ANY RESPONSIBILITY FOR PERFORMING HIS WORK PROPERLY. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED DUE TO THE GENERAL CONTRACTOR'S FAILURE TO CONVEY THE NECESSARY KNOWLEDGE TO FAMILIARIZE WORKERS AND SUBCONTRACTORS WITH THIS PROJECT.
7. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THE SAFETY OF ALL PERSONS ON THE JOB SITE AT ALL TIMES INCLUDING (BUT NOT LIMITED TO) SUBCONTRACTORS, FACILITY EMPLOYEES, VENDORS, DESIGN STAFF PROFESSIONALS AND INSPECTION PERSONNEL.
8. THE GENERAL CONTRACTOR SHALL PROVIDE DUMPSTERS, PORTABLE TOILETS AND TEMPORARY POWER FOR UNRESTRICTED PROJECT RELATED USE BY OTHERS FOR THE DURATION OF THE PROJECT.
9. THE GENERAL CONTRACTOR SHALL COORDINATE PROJECT PHASING AND STORAGE OF MATERIALS WITH THE OWNER.
10. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR RECEIVING, UNLOADING, STORING, AND PROTECTING OF MATERIALS AND EQUIPMENT SUPPLIED BY THE OWNER UNTIL IT HAS BEEN INSTALLED AND ACCEPTED BY THE OWNER.
11. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE AREA CLEAN AND FREE OF DEBRIS AT ALL TIMES DURING CONSTRUCTION. THE GENERAL CONTRACTOR SHALL POWER WASH THE ENTIRE CONSTRUCTION AREA PRIOR TO TURNOVER TO THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING DESIGNATED WASH-OUTS FOR CONCRETE, STUCCO, ETC. THESE SHOULD BE DESIGNATED PRIOR TO CONSTRUCTION ON THE PLANS AND ESTABLISHED AT THE PRE-CONSTRUCTION MEETING.
12. EXISTING PAVING THAT WILL REMAIN AFTER CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE. AREAS OF EXISTING PAVING THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE SAWCUT, THEN REMOVED AND REPLACED.
13. THE GENERAL CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES, INCLUDING IRRIGATION, SPECIFIC TO THIS PROJECT PRIOR TO THE START OF ANY DEMOLITION OR CONSTRUCTION. SHOULD ANY UTILITY REQUIRE RELOCATION, CONTRACTOR SHALL COORDINATE WITH THE OWNER AND THE ARCHITECT/ENGINEER.
14. SAWCUT AND REMOVE PORTIONS OF EXISTING PAVING ONLY AS REQUIRED TO INSTALL NEW UTILITIES OR TO CONSTRUCT PROPOSED FACILITIES PER THIS PLAN. REPLACE PORTIONS REMOVED TO MATCH EXISTING FLUSH AND SMOOTH.
15. PROVIDE TEMPORARY CHAIN LINK FENCING, MINIMUM 6'-0" HIGH, AROUND ENTIRE AREA OF CONSTRUCTION. FIELD VERIFY EXACT LOCATION AND SPECIFICATIONS OF FENCE WITH THE OWNER PRIOR TO START OF CONSTRUCTION. REMOVE FENCING AT COMPLETION OF PROJECT AND PATCH PAVING AS REQUIRED AT FENCE POST HOLES.
16. ALL DIMENSIONS AND RADII ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
17. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL PROPERTY CORNERS.
18. CONTRACTOR SHALL MATCH PROPOSED CURB AND GUTTER, CONCRETE, AND PAVEMENT TO EXISTING IN GRADE AND ALIGNMENT.
19. CONTRACTOR SHALL PROVIDE PIPE BOLLARDS FOR PROTECTION OF ALL ABOVE GROUND UTILITIES AND APPURTENANCES IN DRIVE AREA.
20. CONSTRUCTION SHALL COMPLY WITH ALL GOVERNING CODES AND BE CONSTRUCTED TO SAME.
21. CONTRACTOR IS RESPONSIBLE FOR REPAIRING THE DAMAGE DONE TO ANY EXISTING ITEM TO REMAIN DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO, OR BETTER THAN, EXISTING CONDITIONS. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGE AND NOTIFY OWNER PRIOR TO CONSTRUCTION START.
22. ALL DISTURBED AREAS ARE TO RECEIVE FOUR INCHES OF TOPSOIL, SEED OR SOD, MULCH AND WATER UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.
23. EXISTING STRUCTURES WITHIN CONSTRUCTION LIMITS ARE TO BE ABANDONED, REMOVED OR RELOCATED AS NECESSARY. ALL COST SHALL BE INCLUDED IN BASE BID.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, (UNLESS OTHERWISE NOTED ON PLANS) INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES REQUIREMENTS AND PROJECT SITE WORK SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID.
25. THE SITE WORK FOR THIS PROJECT SHALL MEET OR EXCEED THE SPECIFICATIONS IN THE CONTRACT DOCUMENTS.
26. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER OF RECORD BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM THE DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL.
27. IN THE EVENT THE CONSTRUCTION IS ABANDONED PRIOR TO THE COMPLETION OF THE PROJECT, ALL CONSTRUCTION AND STOCKPILED VEGETATIVE DEBRIS AND FILL WILL BE REMOVED FROM THE SITE AND THE SITE WILL BE STABILIZED PER PENNSYLVANIA GENERIC PERMIT FOR STORM WATER DISCHARGE FROM CONSTRUCTION ACTIVITIES (NPDES). SOIL STOCKPILES AND FILL MATERIALS ARE REQUIRED TO BE SEEDED A MAXIMUM OF SEVEN (7) DAYS OF ABATEMENT PER THE NPDES PERMIT.
28. THE CONTRACTOR IS TO ATTEND AND ARRANGE A PRE-CONSTRUCTION MEETING WITH THE CITY/COUNTY, THEY ARE ALSO REQUIRED TO PROVIDE A COPY OF THE NOI TO THE STATE OF PENNSYLVANIAPRIOR TO BEGINNING ANY CONSTRUCTION, IN ACCORDANCE WITH THE CGP. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE IN PLACE AND INSPECTED BY THE CITY/COUNTY PRIOR TO ANY OTHER CLEARING, GRUBBING, OR DEMOLITION ACTIVITIES.
29. THESE PLANS ARE INTENDED TO AND SHALL COMPLY WITH AMERICANS WITH DISABILITIES ACT.
30. ALL VEGETATION FROM CLEARING AND GRUBBING WILL BE DISPOSED OF OFF-SITE.
31. ALL DESIGN AND CONSTRUCTION MUST CONFORM TO THE MINIMUM STANDARDS SET DOWN IN THE CITY/COUNTY'S DEVELOPMENT CODE, ZONING, AND/OR RELATED ORDINANCES, AND MINIMUM TESTING FREQUENCY REQUIREMENTS.
32. CONTRACTOR IS RESPONSIBLE FOR PERMITTING, INSTALLATION AND MAINTENANCE OF ALL MAINTENANCE OF TRAFFIC OPERATIONS DURING CONSTRUCTION. MAINTENANCE OF TRAFFIC SHALL CONFORM TO GDOT/GOVERNING AGENCY STANDARDS.

GENERAL PAVING AND GRADING NOTES:

1. ALL PAVING AND GRADING CONSTRUCTION MATERIALS AND METHODS WITHIN PENNSYLVANIA DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY SHALL CONFORM TO THE LATEST EDITIONS OF THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS, THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION UTILITY STANDARDS. ALL PAVING AND GRADING CONSTRUCTION MATERIALS AND METHODS OUTSIDE OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY SHALL ALSO CONFORM TO THE ABOVE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF ANY EXISTING UTILITIES SERVING THE STRUCTURE. UTILITIES THAT ARE TO BE REMOVED SHALL BE REMOVED TO THE RIGHT-OF-WAY, UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
4. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
5. PRECAST STRUCTURES MAY BE USED AT CONTRACTORS OPTION AND SHALL MEET ALL PENNSYLVANIA DEPARTMENT OF TRANSPORTATION REQUIREMENTS AND OR SPECIFICATIONS AT A MINIMUM.
6. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
7. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE EPA OR APPLICABLE STATE GENERAL N.P.D.E.S. PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
8. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
9. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
10. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
11. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
12. ALL PAVING, CONSTRUCTION MATERIALS, AND WORKMANSHIP WITHIN GEORGIA DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY AND THE CITY/COUNTY RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND STANDARDS (LATEST EDITION) AND MONTGOMERY COUNTY STANDARDS (LATEST EDITION) RESPECTIVELY.
13. ALL REINFORCED CONCRETE PIPE SHALL BE CLASS III AND INSTALLED IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES LATEST REQUIREMENTS AND SPECIFICATIONS, UNLESS OTHERWISE INDICATED ON THE PLANS OR SPECIFICATIONS.
14. ALL CONCRETE USED ON THE SITE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI IN 28 DAYS.
15. ALL AREAS INDICATED AS PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TYPICAL PAVEMENT SECTIONS AS INDICATED ON THE DRAWINGS.
16. THE CONTRACTOR SHALL ENSURE THAT ALL PLANTING AREAS (INTERIOR ISLANDS, FOUNDATION PLANTING AREAS, ETC.) ARE NOT COMPACTED AND DO NOT CONTAIN LIMEROCK OR OTHER MATERIAL (CLAY, SUBGRADE MATERIAL, MARL, ETC.) WHICH MAY ADVERSELY AFFECT DRAINAGE OF GREEN AREAS. THE CONTRACTOR SHALL ALSO EXCAVATE AND REMOVE ALL UNDESIRABLE MATERIAL FROM ALL AREAS ON THE SITE TO BE PLANTED AND BACKFILL WITH CLEAN, FREE DRAINING TOPSOIL.
17. CONTRACTOR IS SPECIFICALLY CAUTIONED, DEPENDING ON THE TIME OF YEAR AND PROJECT LOCATION, DEWATERING MAY BY REQUIRED.
18. IF DEWATERING IS REQUIRED, THE CONTRACTOR SHALL OBTAIN ANY APPLICABLE REQUIRED PERMITS. THE CONTRACTOR IS TO COORDINATE WITH THE OWNER PRIOR TO EXCAVATION. THE CONTRACTOR IS TO SUPPLY THE CITY/COUNTY A COPY OF THE PERMIT A MINIMUM OF TWO (2) BUSINESS DAYS PRIOR TO ANY CONSTRUCTION ACTIVITY.
19. STRIP TOPSOIL AND ORGANIC MATTER AND PAVING MATERIAL FROM ALL AREAS TO BE IMPERVIOUS. TOPSOIL SHALL BE STOCKPILED ON SITE FOR REPLACEMENT ON SLOPES AND ALL OTHER GREEN AND LANDSCAPE AREAS.
20. FIELD DENSITY TESTS SHALL BE TAKEN AT FREQUENCY AS REQUIRED IN THE SPECIFICATIONS OR AS REQUIRED BY THE GOVERNING REGULATORY AGENCY, WHICH EVER IS MORE STRINGENT.
21. ALL STRUCTURES ARE TO CONFORM WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS. CURB INLETS SHALL CONFORM TO PENNSYLVANIA DEPARTMENT OF TRANSPORTATION STANDARDS, CATCH BASINS SHALL HAVE TRAFFIC BEARING GRATES. CONCRETE FLARED END SECTIONS SHALL CONFORM TO PENNSYLVANIA DEPARTMENT OF TRANSPORTATION STANDARDS. MANHOLES SHALL CONFORM TO PENNSYLVANIA DEPARTMENT OF TRANSPORTATION STANDARDS.
22. CONTRACTOR SHALL ENSURE POSITIVE FLOW TO ALL INLETS WITHIN DRAINAGE BASINS TO PRECLUDE PONDED WATER.
23. ALL DRAINAGE CULVERT JOINTS SHALL CONFORM TO PENNSYLVANIA DEPARTMENT OF TRANSPORTATION STANDARDS.
24. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO CONTROL SEDIMENT LOSS, INCLUDING BUT NOT LIMITED TO THE INSTALLATION OF SILT FENCE AT ALL LOCATIONS WHERE THE POSSIBILITY OF TRANSFERRING SUSPENDED SOLIDS INTO THE RECEIVING WATER BODY EXISTS DUE TO THE PROPOSED WORK. SILT FENCE MUST BE MAINTAINED IN EFFECTIVE CONDITION AT ALL LOCATIONS UNTIL CONSTRUCTION IS COMPLETED AND DISTURBED SOIL AREAS ARE STABILIZED. THEREAFTER, THE CONTRACTOR MUST REMOVE THE SEDIMENT BARRIERS. AT NO TIME SHALL THERE BE ANY OFF-SITE DISCHARGE WHICH VIOLATES THE WATER QUALITY STANDARDS OF THE STATE OF PENNSYLVANIA STORMWATER PERMIT.

GENERAL UTILITY NOTES:

1. CONTRACTOR SHALL COORDINATE ANY DISRUPTIONS TO EXISTING UTILITY SERVICES WITH ADJACENT PROPERTY OWNERS.
2. ALL ELECTRIC, TELEPHONE, AND GAS EXTENSIONS (INCLUDING SERVICE LINES) SHALL BE CONSTRUCTED TO THE APPROPRIATE UTILITY COMPANY SPECIFICATIONS. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE DESIGNATED UTILITY COMPANIES.
3. CONSTRUCTION SHALL NOT START ON ANY PUBLIC UTILITY SYSTEM UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED BY THE ENGINEER FROM THE APPROPRIATE GOVERNING AUTHORITY AND CONTRACTOR HAS BEEN NOTIFIED BY THE ENGINEER.
4. PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN, OR ANY OF THE DRY UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM THE ENGINEER AND THE OWNER/DEVELOPER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION SHALL BE MADE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER AND ITS CLIENTS SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION.
5. PRIOR TO CONSTRUCTION, THE GENERAL CONTRACTOR SHALL VERIFY THAT "STUB OUTS" FOR POWER, TELEPHONE, FIBER OPTICS, WATER AND SEWER (IF APPLICABLE) HAVE BEEN PROVIDED BY OTHERS AT THE AREA ADJACENT TO THE PROPOSED BUILDING. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL CONNECTIONS AT THE BUILDING.
6. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SCHEDULE FOR INSTALLATION WITH THE UTILITY COMPANIES AND THE OWNER. ALL EXISTING CONDITIONS THAT ARE REMOVED OR DISRUPTED DURING THE PLACEMENT OF NEW UTILITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL CONDITIONS. ANY EXISTING UTILITIES DISRUPTED DURING PLACEMENT OF NEW UTILITIES SHALL BE REPAIRED AND OPERATING NORMALLY THE SAME DAY OF DISRUPTION. ITEMS THAT MAY NEED TO BE REPLACED OR REPAIRED INCLUDE BUT ARE NOT LIMITED TO: EXISTING ASPHALT PAVING, EXISTING CONCRETE PAVING, WATER LINES, IRRIGATION LINES, GRASS AREAS, LANDSCAPING, AND SITE LIGHTING. THE GENERAL CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF ALL EXISTING ITEMS THAT WILL BE DISRUPTED DURING THE PLACEMENT OF NEW UTILITIES AND PROVIDE THE OWNER A DETAILED PHASING SCHEDULE OUTLINING THE TIMELINE FOR INSTALLATION OF NEW UTILITIES INCLUDING THE PROPOSED TIMES THAT EXISTING ITEMS WILL BE DISRUPTED. THE NEW UTILITIES TRENCH WIDTH AND DEPTH SHALL MEET ALL LOCAL AND STATE REQUIREMENTS FOR THE DISPLACEMENT OF ALL UTILITIES. IF DIRECTIONAL BORING IS USED FOR INSTALLATION, THE ABOVE LISTED ITEMS ARE STILL REQUIRED TO BE SUBMITTED TO THE OWNER.
7. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
8. ALL SANITARY SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RINGS & COVERS. SANITARY MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE WITH WATER TIGHT LIDS.
9. ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
10. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
11. UNDERGROUND UTILITY LINES SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
12. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 4000 P.S.I.
13. REFER TO ARCHITECTURAL DRAWINGS FOR TIE-IN OF ALL UTILITIES.
14. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE SPECIFICATIONS OF THE LOCAL AUTHORITIES WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
15. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.
16. DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES.
17. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
18. THE CONTRACTOR SHALL CONSTRUCT GRAVITY SEWER LATERALS, MANHOLES, GRAVITY SEWER LINES AND DOMESTIC WATER AND FIRE PROTECTION SYSTEM AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS, EQUIPMENT, MACHINERY, TOOLS, MEANS OF TRANSPORTATION, AND LABOR NECESSARY TO COMPLETE THE WORK IN FULL AND COMPLETE IN ACCORDANCE WITH THE SHOWN, DESCRIBED AND REASONABLY INTENDED REQUIREMENTS OF THE CONTRACT DOCUMENTS AND JURISDICTIONAL AGENCY REQUIREMENTS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
19. THE CONTRACTOR SHALL RESTORE ALL DISTURBED VEGETATION IN KIND, UNLESS SHOWN OTHERWISE.
20. DEFLECTION OF PIPE JOINTS AND CURVATURE OF PIPE SHALL NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS. SECURELY CLOSE ALL OPEN END

SOIL SUITABILITY AND CHARACTERISTICS

DESIGNATION	SOIL	HYDROLOGIC SOIL GROUP	DESCRIPTION	DEPTH FROM SURFACE OF TYPICAL PROFILE	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	HYDRIC SOIL	FROST ACTION	FOR USE AS ROAD FILL	FOR USE AS TOPSOIL	FOR USE AS GRAVEL	FOR USE AS SAND
UroB	URBAN LAND-LAWRENCEVILLE COMPLEX, 0 TO 8 PERCENT SLOPES	MAIN COMPONENT NOT LISTED LAWRENCEVILLE - C	URBAN LAND: 80 PERCENT LAWRENCEVILLE AND SIMILAR SOILS: 25 PERCENT MINOR COMPONENTS: 10 PERCENT	74 INCHES	MORE THAN 78 INCHES	10 TO 99 INCHES	RATING :5	NONE	NOT RATED	NOT RATED	NOT RATED	NOT RATED
UusB	URBAN LAND-UDORTHENTS, SHALE AND SANDSTONE COMPLEX, 0 TO 8 PERCENT SLOPES	MAIN COMPONENTNOT LISTED UDORTHENTS, SHALE AND SANDSTONE - A	URBAN LAND: 80 PERCENT UDORTHENTS, SHALE AND SANDSTONE, AND SIMILAR SOILS: 15 PERCENT MINOR COMPONENTS: 5 PERCENT	60 INCHES	MORE THAN 78 INCHES	10 TO 99 INCHES	RATING :0	NONE	NOT RATED	NOT RATED	NOT RATED	NOT RATED

ACREAGE SUMMARY (IN ACRES)

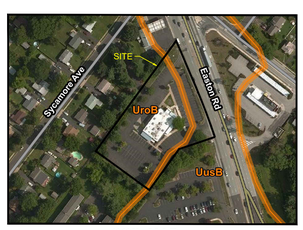
TOTAL PROJECT AREA	2.00
ON-SITE DISTURBED AREA	0.79
OFF-SITE DISTURBED AREA	0.00
TOTAL DISTURBED AREA	0.79
IMPERVIOUS AREA AT COMPLETION WITHIN THE PROPERTY	1.59
PERVIOUS/SEEDED AREA AT COMPLETION WITHIN THE PROPERTY	0.41
IMPERVIOUS AREA OFF-SITE	0.00
PERVIOUS AREA OFF-SITE	0.00

CONSTRUCTION ENTRANCE NOTES:

1. THE PRE-EXISTING NOTHWESTERN DRIVEWAY ENTRANCE VIA SYCAMORE AVENUE WILL BE USED AS THE CONSTRUCTION ENTRANCE. CONTRACTOR TO ENSURE THAT THE ROADS SHALL BE KEPT FREE OF SEDIMENT.

EROSION CONTROL LEGEND

- EXISTING PROPERTY BOUNDARY LINE
- EXISTING ADJOINING PROPERTY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CURB
- EXISTING TREE
- EXISTING SIGNAGE
- EXISTING BOLLARD
- EXISTING 5' INTERVAL CONTOUR LINE
- EXISTING 1' INTERVAL CONTOUR LINE
- EXISTING WATER MAIN
- EXISTING UNDERGROUND ELECTRIC
- EXISTING TELEPHONE
- EXISTING OVERHEAD WIRES
- EXISTING SANITARY
- EXISTING STORM
- EXISTING GAS MAIN
- EXISTING UTILITY POLE
- EXISTING STORM STRUCTURES
- EXISTING SANITARY STRUCTURES
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING TELEPHONE STRUCTURE
- EXISTING ELECTRIC STRUCTURE
- EXISTING LIGHT POLE
- PROPOSED CURB
- PROPOSED FLUSH CURB
- PROPOSED BUILDING
- PROPOSED EDGE OF PAVEMENT
- PROPOSED CONCRETE
- PROPOSED PARKING STRIPING
- PROPOSED SIGN
- PROPOSED DETECTABLE WARNING SURFACE
- PROPOSED STORM STRUCTURE
- PROPOSED SANITARY STRUCTURE
- PROPOSED WATER PIPE
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED SANITARY PIPE
- PROPOSED STORM PIPE
- PROPOSED GAS PIPE
- PROPOSED 5' INTERVAL CONTOUR LINE
- PROPOSED 1' INTERVAL CONTOUR LINE
- COMPOST FILTER SOCK (REFER TO SHEET C3.2 FOR DETAIL)
- INLET PROTECTION (REFER TO SHEET C3.2 FOR DETAIL)
- TOPSOIL STOCKPILE (REFER TO SHEET C3.2 FOR DETAIL)
- CONCRETE WASHOUT AREA (REFER TO SHEET C3.2 FOR DETAIL)
- TREE PROTECTION (REFER TO SHEET C3.2 FOR DETAIL)
- CONSTRUCTION FENCE (REFER TO SHEET C3.2 FOR DETAIL)
- EXISTING SOIL BOUNDARY
- PROPOSED UNDERGROUND DETENTION / INFILTRATION BASIN



SOIL MAP
SCALE: 1" = 200'

CHAPTER 93 RECEIVING WATERSHED AND STREAM CLASSIFICATION:

- DELAWARE RIVER BASIN
- PENNYPACK CREEK WATERSHED
- BASIN, MEDIA WATER INTAKE TO PENNYPACK CREEK, **TSF, MF**

GRAPHIC SCALE
20 10 5 0 20
1" = 20'

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

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF UNDERGROUND UTILITIES AND/OR STRUCTURES AS SHOWN ON THESE DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

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DOCUMENTS PREPARED BY CORESTATES, INC., INCLUDING THIS DOCUMENT, ARE TO BE USED ONLY FOR THE SPECIFIC PROJECT AND SPECIFIC USE FOR WHICH THEY WERE INTENDED. ANY EXTENSION OF USE TO ANY OTHER PROJECTS, BY OWNER OR BY ANY OTHER PARTY, WITHOUT THE EXPRESSED WRITTEN CONSENT OF CORESTATES, INC. IS DONE UNLAWFULLY AND AT THE USERS OWN RISK. IF USED IN A WAY OTHER THAN THAT SPECIFICALLY INTENDED, USER WILL HOLD CORESTATES, INC. HARMLESS FROM ALL CLAIMS AND LOSSES.

ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA — REGISTERED ENGINEER — BRIAN L. SEARCY — PROFESSIONAL ENGINEER

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION
1 08-18-2022 AGENCY REVISIONS

Restaurant #: xxxx

OLIVE GARDEN

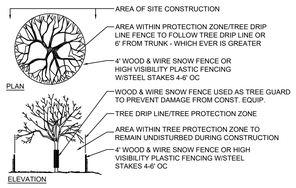
2402 EASTON ROAD
WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

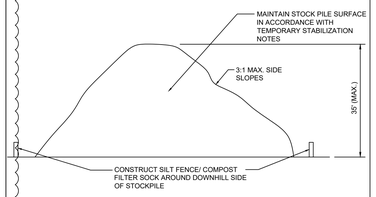
WILLOW GROVE, PA

Drawing
EROSION AND SEDIMENT CONTROL PLAN

C3.1



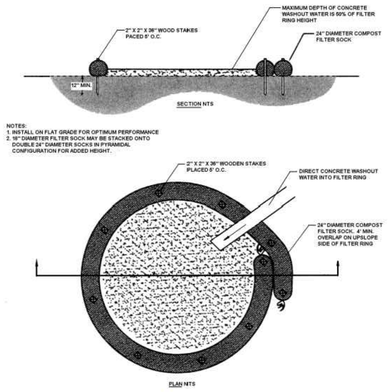
TREE PROTECTION
DURING SITE CONSTRUCTION
NOT TO SCALE



TEMPORARY STOCKPILE DETAIL
N.T.S.

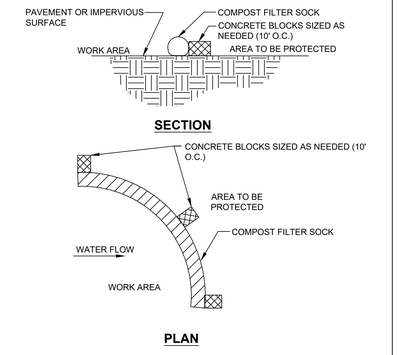
Filtrexx

FIGURE 3.18
Typical Compost Sock Washout Installation



A suitable impervious geomembrane shall be placed at the location of the washout prior to installing the socks.
Adapted from Filtrexx

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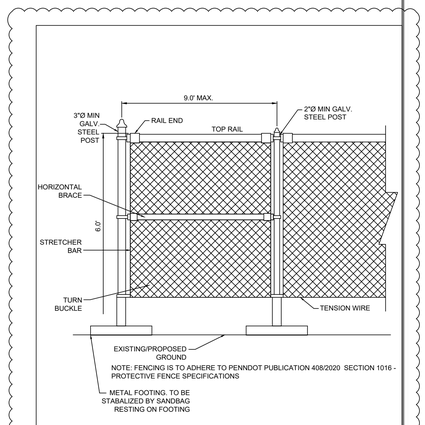


NOTES

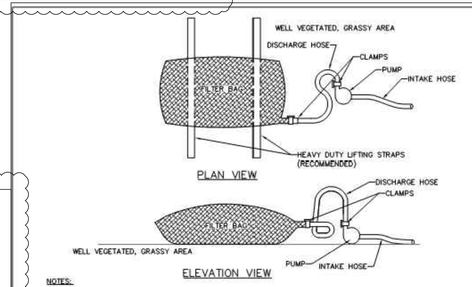
1. ALL SOCK FABRIC TO MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL.
2. ALL COMPOST MATERIAL SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.
3. FILTER MEDIA TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

N.T.S.

COMPOST FILTER SOCK ON PAVEMENT (CS)



TEMPORARY CONSTRUCTION FENCE DETAIL
N.T.S.



NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5% FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

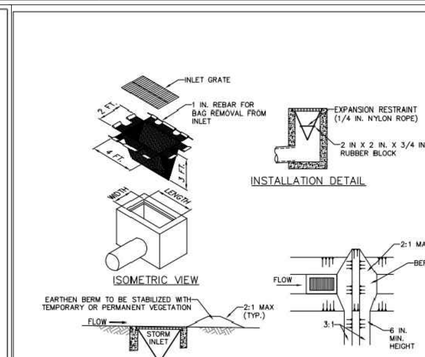
NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

STANDARD CONSTRUCTION DETAIL #3-16
PUMPED WATER FILTER BAG
NOT TO SCALE



NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

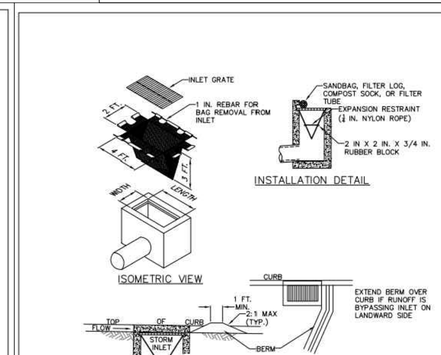
ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE. BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL #4-16
FILTER BAG INLET PROTECTION - TYPE M INLET
NOT TO SCALE



NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE. BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT. AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE OF ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL #4-15
FILTER BAG INLET PROTECTION - TYPE C INLET
NOT TO SCALE

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

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON FIELD OBSERVATIONS AND/OR INFORMATION OBTAINED FROM THE RESPECTIVE UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN FROM TOPS OF VALVES AND MANHOLES. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE UTILITY COMPANIES AT LEAST TWO FULL WORKING DAYS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

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Olive Garden ITALIAN KITCHEN

ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA REGISTERED ENGINEER BRIAN L. SEARCY PROFESSIONAL ENGINEER

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION

1 08-18-2022 AGENCY REVISIONS

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD

WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing
EROSION AND SEDIMENT CONTROL PLAN DETAILS

C3.2

User: CLANG Plot Date/Time: Aug. 18, 22 - 15:12:21 Drawing: C:\Users\clang\appdata\local\temp\AcPublish_15608\DAR.33962-P-EROS.dwg, C3.2 - EROS DETS

SOIL USE LIMITATIONS AND THEIR RESOLUTIONS PROVIDED:

CONTRACTOR SHALL CONSULT WITH GEOTECHNICAL ENGINEER TO DETERMINE SOIL LIMITATIONS AND RESOLUTIONS SPECIFIC TO THIS PROJECT.

1. SOIL TYPES POORLY SUITED AS SOURCES OF TOPSOIL RESTRICT OR PLACE CONDITIONS ON PLANNING VEGETATIVE STABILIZATION. ACIDIC, LOW FERTILITY, EXCESSIVE DRYNESS AND EXCESSIVE WETNESS LIMIT PLANT GROWTH.
   RESOLUTIONS: IDENTIFYING AND RESOLVING CHARACTERISTICS, THAT RENDER THE SOIL TYPES POORLY, SUITED AS TOPSOIL.
2. ACIDIC SOIL TYPES EXHIBITING PH REACTION VALUES LOWER THAN ABOUT 5.5, LIMIT VEGETATIVE STABILIZATION. SOIL TESTS MIGHT BE NECESSARY TO DETERMINE SITE SPECIFIC PH REACTION.
   RESOLUTIONS: APPLYING LIME CONSISTENT WITH RATES DETERMINED BY SOIL TESTING; SELECTING VEGETATIVE SPECIES TOLERANT TO ACIDIC SOIL CONDITIONS; AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
3. LOW FERTILITY SOIL TYPES LACKING IN SUFFICIENT AMOUNTS OF ESSENTIAL PLANT NUTRIENTS SUCH AS: NITRPGEN, PHOSPHOROUS, POTASSIUM, SULFER, MAGNESIUM, CALCIUM, IRON, MANGANESE, BORON, CHLORINE, ZINC, COPPER AND MLYBDENUM, LIMIT VEGETATION STABILIZATION. SOIL TESTS MIGHT BE NECESSARY TO DETERMINE SITE SPECIFIC SOIL FERTILITY.
   RESOLUTIONS: INCORPORATING SOIL NUTRIENTS CONSISTENT WITH RATES DETERMINED BY SOIL TESTING; SELECTIVE VEGETATIVE SPECIES TOLERANT TO LOW FERTILITY SOIL CONDITIONS, AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
4. ERODIBLE SOIL TYPES EXHIBITING K VALUES GREATER THAN 0.36 OR PLASTICITY INDEX VALUES LOWER THAN 10, LIMIT VEGETATIVE STABILIZATION OF CHANNELS.
   RESOLUTIONS: TEMPORARY CHANNEL LINING, PROVIDING PERMANENT CHANNEL LINING, DECREASING CHANNEL GRADE, INCREASING CHANNEL WIDTH, SELECTING VEGETATIVE WITH GREATER RETARDANCE, SELECTING PERMANENT LININGS OTHER THAN GRASSES, AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. VEGETATIVE RETARDANCE INFORMATION IS PROVIDED IN TABLES 6 AND 7 OF THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL PUBLISHED BY PADEP.
5. WET SOIL TYPES HAVE EXCESSIVE ROOT ZONE AND SOIL MOISTURES. SOME SOIL SURVEYS INDICATE WETNESS, HIGH WATER TABLE AND FLOODING. THIS INDICATOR IS AFFECTED BY SOIL DISTURBANCE.
   RESOLUTIONS: SELECTING VEGETATIVE SPECIES TOLERANT TO WET CONDITIONS, TILING VEGETATIVE AREAS, AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY THE PENN STATE.
6. DRY SOIL TYPES LACK SUFFICIENT ROOT ZONE SOIL MOISTURES. THIS INDICATOR IS AFFECTED BY SOIL DISTURBANCE.
   RESOLUTIONS: SELECTING VEGETATIVE SPECIES TOLERANT TO DRY CONDITIONS, IRRIGATING VEGETATED AREAS AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
7. SOIL TYPES SUSCEPTIBLE TO SINKHOLE AND SOLUTION CHANNEL/CHAMBER FORMATION POSE LIMITATIONS ON LOCATING RESERVOIR AREAS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS, AND STORMWATER DETENTION BASINS.
   RESOLUTIONS: LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, LINING RESERVOIR AREAS WITH IMPERMEABLE LININGS, LIMITING STANDING WATER DEPTHS, LIMITING RETENTION TIMES AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS.
8. SOIL TYPES THAT EXHIBIT INSTABILITY IN POND EMBANKMENTS OR SUSCEPTIBILITY TO PIPING AND SEEPING POSE LIMITATIONS ON PLANNING EMBANKMENTS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS AND STORMWATER DETENTION BASINS.
   RESOLUTIONS: IMPORTING OTHER SOIL FOR EMBANKMENT OF THOSE FACILITIES, LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, LIMITING EMBANKMENT SLOPE STEEPNESS AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS.
9. SOIL THAT ARE DIFFICULT TO COMPACT, UNSUITABLE FOR WINTER GRADING, OR SUSCEPTIBLE TO FROST ACTION POSE LIMITATIONS ON PLANNING EMBANKMENTS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS AND STORMWATER DETENTION BASINS.
   RESOLUTIONS: IMPORTING OTHER SOIL FOR EMBANKMENT OF THOSE FACILITIES, LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, NOT CONSTRUCTING EMBANKMENTS DURING PERIODS PRONE TO FROST AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS
10. SUSCEPTIBILITY FOR THE DEVELOPMENT OF SINKHOLE WITHIN IDENTIFIED SOILS.
    RESOLUTIONS: IN THE EVENT THAT A SINKHOLE IS DETECTED DURING THE COURSE OF WORK, CORRECTIVE MEASURES SHALL BE PERFORMED UNDER THE OBSERVATION AND GUIDANCE OF THE OWNER'S GEOTECHNICAL CONSULTANT. EXCAVATE THE LOOSE, WET SOILS SURROUNDING THE SINKHOLE TO EXPOSE THE SINKHOLE "THROAT" (THE OPENING IN THE ROCK) AND THE ADJACENT STABLE SOILS/ROCK WHERE POSSIBLE. THE EXCAVATION SHALL EXTEND A MINIMUM OF TWO FEET (2') BEYOND THE STABLE SOILS OR TO THE ROCK SURFACE, WHICHEVER IS ENCOUNTERED FIRST.
    FILL THE EXPOSED SINKHOLE "THROAT" WITH LEAN CONCRETE TO BLOCK THE MIGRATION OF THE UPPER LAYERS OF SOIL THROUGH THE ROCK OPENING.
    AFTER CONCRETE HAS CURED OVERNIGHT BACKFILL THE REMAINDER OF THE EXCAVATION WITH CLAYEY SOILS TO PROVIDE A LOW PERMEABILITY BARRIER. THE CLAYEY SOIL SHALL BE PLACED IN 8"LIFTS AND EACH LIFT COMPACTED BY REPEATED PASSES OF THE COMPACTION EQUIPMENT UNTIL STABLE. CARE SHALL BE TAKEN TO ASSURE THAT THE SOIL AT THE EDGES OF THE EXCAVATION ARE WELL COMPACTED.

GENERAL CONSERVATION NOTES AND SPECIFICATIONS

GENERAL INFORMATION

A. THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE AVAILABLE AT THE SITE.
B. NO SEDIMENT OR SEDIMENT LADEN WATER MUST BE ALLOWED TO LEAVE THE SITE WITHOUT FIRST BEING PROPERLY FILTERED.
C. ANY SEDIMENT THAT IS TRACKED ONTO THE ROAD MUST BE CLEANED OFF BEFORE THE END OF THE DAY.
D. DISTURBED AREAS ON WHICH EARTHMOVING ACTIVITIES HAVE CEASED AND WHICH WILL REMAIN EXPOSED SHALL BE STABILIZED IMMEDIATELY, EITHER TEMPORARILY OR PERMANENTLY, INCLUDING THE RESTORATION OF DRIVEWAYS, STOCKPILES, OFF-SITE UNDERGROUND UTILITY LINES AND GRADED PERIMETER AREAS. DURING NON-GERMINATION PERIODS, MULCH MUST BE APPLIED AT RECOMMENDED RATES. CRUSHED STONE ON PAVEMENT SUBGRADES IS CONSIDERED ADEQUATE PROTECTION.
E. AREAS THAT FAIL TO GERMINATE MUST BE RE-SEEDED OR MULCHED.
F. WHERE DISTURBED AREAS ARE DIFFICULT TO STABILIZE, NETTING SHOULD BE USED TO HOLD SEED AND MULCH IN PLACE. THIS IS ESPECIALLY IMPORTANT AROUND WATERCOURSES, IN SWALES AND AREAS OF CONCENTRATED FLOWS, STEEP SLOPES.
G. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROLS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-MULCHING, AND RE-NETTING, MUST BE PERFORMED IMMEDIATELY. IF AT ANY TIME PRIOR TO SITE STABILIZATION ANY E&SP PROBLEMS OCCUR WHICH REQUIRE ADDITIONAL CONTROLS, IMMEDIATE ACTION MUST BE TAKEN TO CORRECT THE PROBLEMS. THE CONTRACTOR MUST DEVELOP AND COORDINATE WITH OWNER AND HAVE APPROVED BY THE COUNTY CONSERVATION DISTRICT, A SEPARATE EROSION AND SEDIMENT POLLUTION CONTROL PLAN FOR EACH SPOIL, BORROW OR OTHER WORK AREA NOT DETAILED ON THE PERMITTED PLANS, WHETHER LOCATED WITHIN OR OUTSIDE OF THE LIMITS OF CONSTRUCTION.
H. CONTRACTOR SHALL NOTIFY THE COUNTY CONSERVATION DISTRICT OF DISPOSAL METHOD AND LOCATION OF MATERIALS (IF ANY) TO BE REMOVED FROM SITE.
I. STANDARD FOR DISPOSAL OF MATERIALS ALL MATERIALS TO BE RECYCLED OR DISPOSED OF MUST DO SO IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL REGULATIONS. STOCKPILES OF SOIL AND OTHER MATERIALS OFF SITE MUST HAVE AN APPROVED EROSION AND SEDIMENT CONTROL PLAN AT THE DESTINATION LOCATION.
J. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN SOIL STABILIZATION THROUGHOUT CONSTRUCTION. ADDITIONAL MEASURES REQUIRED TO ENSURE ON-SITE AND OFF-SITE STABILIZATION IN AND ADJACENT TO CONSTRUCTION ACTIVITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND HALL BE AT NO COST TO THE OWNER. IMMEDIATE NOTIFICATION SHALL BE GIVEN TO THE OWNER AND ENGINEER SHOULD ADDITION STABILIZATION MEASURES BE NECESSARY; IN ACCORDANCE WITH THE NPDES AND/OR SWPPP REQUIREMENTS FOR THE PROJECT.

STANDARD FOR LAND GRADING

A. DEFINITION: RESHAPING THE GROUND SURFACE BY GRADING TO PLAN GRADES, WHICH ARE DETERMINED BY TOPOGRAPHIC SURVEY AND LAYOUT.
B. PROVISIONS SHALL BE MADE TO CONDUCT SURFACE WATER TO STORM DRAINS OR SUITABLE WATER COURSES AND TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FULL SLOPES.
C. ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS.
   - INSTALLATION REQUIREMENTS
   - TIMBER, LOGS, BRUSH, RUBBISH, ROCKS, STUMPS AND VEGETABLE MATTER WHICH WILL INTERFERE WITH THE GRADING OPERATION OR AFFECT THE PLANNED STABILITY OR FILL AREAS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH STANDARD FOR DISPOSAL OF MATERIALS.
   - FILL MATERIAL IS TO BE FREE OF BRUSH, RUBBISH, TIMBER, LOGS, VEGETATIVE MATTER AND STUMPS IN AMOUNTS THAT WILL BE DETRIMENTAL TO CONSTRUCTION OF FILL AREAS.
   - ALL FILLS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPING, EROSION OR EXCESS SATURATION.
   - ALL DISTURBED AREAS SHALL BE LEFT WITH A NEAT AND FINISHED APPEARANCE AND SHALL BE PROTECTED FROM EROSION.
   - (SEE 1. D.)

STANDARD FOR UTILITY TRENCH EXCAVATION

A. LIMIT ADVANCE CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
B. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING WITHIN THE SAME DAY. CARE SHALL BE TAKEN THAT BACKFILLING OF THE TRENCH MAY BE DELAYED FOR A MAX. OF SIX DAYS FOR CERTAIN CASES REQUIRING TESTING OF THE INSTALLED PIPE.
C. WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING TO A FACILITY FOR REMOVAL OF SEDIMENT (SEDIMENT FILTER BAG, SEE DETAIL) BEFORE PIPE PLACEMENT AND/OR BACKFILLING BEGINS.
D. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES AND FACILITIES WILL BE INSTALLED. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE IMMEDIATELY.
E. WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FORM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
F. ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.

STANDARD FOR TEMPORARY STABILIZATION

A. STANDARD FOR TEMPORARY STABILIZATION WITH FIBERMULCH
   - MULCHING IS MOST APPLICABLE TO THOSE AREAS SUBJECT TO PERIODIC DISTURBANCE AND REWORKING IN ADDITION, STABILIZATION WITH FIBER MULCH SHALL BE USED DURING NON-GERMINATION PERIODS.
   - PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO THE SLOPE.
   - GRADE AS NEED AND FEASIBLE. SEE STANDARD FOR LAND GRADING.
   - PROTECTIVE MATERIALS TO BE USED:
     - UNROTTED SMALL-GRAIN UN-CHOPPED STRAW OR HAY AT 3.0 TONS PER ACRE (4 TONS PER ACRE BETWEEN NOVEMBER 1 AND MARCH 1) SPREAD UNIFORMLY AND ANCHORED WITH LIQUID MULCH BINDER BINDER PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S SPECIFICATIONS.
     - HYDROMULCHER. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL. LIQUID MULCH BINDERS: APPLY IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH TO MINIMIZE LOSS BY WIND OR WATER. PRODUCTS TO BE INSTALLED AT A RATE OF 1 TON PER ACRE (MINIMUM) OR PER MANUFACTURER'S SPECIFICATIONS.

B. STANDARD FOR TEMPORARY STABILIZATION WITH SEED
   - DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN TWELVE (12) MONTHS MUST BE SEEDED AND MULCHED IMMEDIATELY WITH A TEMPORARY COVER.
   - ALL AREAS TO BE PERMANENTLY SEEDED SHALL ALSO RECEIVE TEMPORARY SEEDING CONCURRENTLY.
   - SEEDBED PREPARATION FOR TEMPORARY SEEDING.
     - PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.
     - APPLY AGRICULTURAL LIME AT A RATE OF 1 TONE PER ACRE.
     - APPLY 10-10-10 FERTILIZER AT A RATE OF 500 POUNDS PER ACRE.
     - WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF FOUR (4) INCHES.

C. SEEDING: SEE SEEDING SPECIFICATIONS.

STANDARD FOR PERMANENT STABILIZATION

A. SPECIFICATION FOR SEEDING SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER
1. **SITE PREPARATION**
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION.
      SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE.
   A. SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT AND LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL PH TO BETWEEN 5.5 AND 7 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES.
   B. IMMEDIATELY PRIOR TO TOPSOIL DISTRIBUTION, THE SURFACE SHOULD BE SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3-5 INCHES TO PROVIDE A GOOD BOND WITH THE TOPSOIL.
2. **APPLYING TOPSOIL**
   A. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE.
   B. ALL DISTURBED TOPSOIL ON-SITE IS TO BE REDISTRIBUTED ON-SITE IN AREAS NOT COVERED BY IMPERVIOUS SURFACES. NO REMOVAL OF TOPSOIL IS ALLOWED UNLESS APPROVED BY MONTGOMERY COUNTY OR UPPER MORELAND TOWNSHIP. UNIFORM APPLICATION TO A DEPTH OF 6-8 INCHES (UNSETTLED) IS RECOMMENDED. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE.
3. **SEEDBED PREPARATION**
   A. A SOIL TEST SHALL BE CONDUCTED TO ACCURATELY DETERMINE NECESSARY SOIL AMENDMENTS.
   B. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.
   C. SOIL MODIFICATIONS:
1. APPLY 10-10-20 RATED FERTILIZER AT A RATE OF 1000 POUNDS PER ACRE OR 25 POUNDS PER 1000 SQUARE FEET, OR AS DIRECTED BY SOIL TEST.
2. APPLY AGRICULTURAL LIME AT A RATE OF 6 TONS PER ACRE OR 240 POUNDS PER 1000 SQUARE FEET, OR AS DIRECTED BY SOIL TEST.
   D. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM FINE SEEDBED IS PREPARED.
   E. REMOVE FROM THE SURFACE ALL STONES ONE INCH (1") OR LARGER IN ANY DIMENSION, REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.
   F. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RE-TILLED AND FIRMED AS ABOVE.
4. SEEDING: SEE SEEDING SPECIFICATIONS
5. SEED BED AREAS SHALL ALSO BE STABILIZED USING AN APPROVED METHOD (EG: HYDROMULCHING) AS OUTLINED IN ITEM 4.A. HEREIN.

B. STANDARD FOR PERMANENT STABILIZATION WITH SOD

1. METHODS AND MATERIALS
   A. CULTIVATED SOD IS PREFERRED OVER NATIVE OR PASTURE SOD. SPECIFY "CERTIFIED SOD," OR OTHER HIGH QUALITY CULTIVATED SOD.
   B. SOD SHOULD BE FREE OF WEEDS AND UNDESIRABLE COARSE WEEDY GRASSES.
   C. SOD SHOULD BE OF UNIFORM THICKNESS, APPROXIMATELY 5/8 INCH, PLUS OR MINUS 1/4 INCH, AT TIME OF CUTTING. (EXCLUDES TOP GROWTH)
   D. SOD SHOULD BE VIGOROUS AND DENSE AND BE ABLE TO RETAIN ITS OWN SHAPE AND WEIGHT WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP FROM THE UPPER 0% OF THE STRIP. BROKEN PADS OR TORN AND UNEVEN PIECES WILL NOT BE ACCEPTABLE.
   E. A SOD OF KENTUCKY 31 TALL FESCUE WITH BLUEGRASS, OR A FESCUE BLEND IS PREFERRED.
   F. ONLY MOIST, FRESH UNHEATED SOD SHOULD BE USED. SOD SHOULD BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 36 HOURS.
2. SITE PREPARATIONS: SEE SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER (ITEM 5.A. ABOVE)
3. SOD PLACEMENT
   A. STRIPS SHOULD BE LAID ON THE CONTOUR, NEVER UP AND DOWN THE SLOPE, STARTING AT THE BOTTOM OF THE SLOPE AND WORKING UP. ON STEEP SLOPES, THE USE OF LADDERS WILL FACILITATE THE WORK AND PREVENT DAMAGE TO THE SOD. DURING PERIODS OF HIGH TEMPERATURE, LIGHTLY IRRIGATE THE SOIL IMMEDIATELY AHEAD OF LAYING THE SOD.
   B. PLACE SOD STRIPS WITH SNUG EVEN JOINTS THAT ARE STAGGERED. OPEN SPACES INVITE EROSION.
   C. ROLL OR TAMP SOD IMMEDIATELY FOLLOWING PLACEMENT TO INSURE SOLID CONTACT OF ROOT MAT AND SOIL SURFACE. DO NOT OVERLAP SOD. ALL JOINTS SHOULD BE BUTTED TIGHTLY IN ORDER TO PREVENT VOIDS, WHICH WOULD CAUSE DRYING OF THE ROOTS.
   D. ON SLOPES GREATER THAN 3 TO 1, SECURE SOD TO SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES OR A BIODEGRADABLE FASTENER.
   E. SURFACE WATER CANNOT ALWAYS BE DIVERTED FROM FLOWING OVER THE FACE OF THE SLOPE, BUT A CAPPING STRIP OF HEAVY JUTE OR PLASTIC NETTING, PROPERLY SECURED, ALONG THE CROWN OF THE SLOPE AND EDGES WILL PROVIDE EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOD. THE SAME TECHNIQUE CAN BE USED TO ANCHOR SOD IN WATER-CARRYING CHANNELS AND OTHER CRITICAL AREAS. WIRE STAPLES MUST BE USED TO ANCHOR NETTING IN CHANNEL WORK.
   F. IMMEDIATELY FOLLOWING INSTALLATION, SOD SHOULD BE WATERED UNTIL MOISTURE PENETRATES THE SOIL BENEATH THE SOD TO A DEPTH OF 4 INCHES. MAINTAIN OPTIMUM MOISTURE FOR AT LEAST TWO WEEKS.
4. FOLLOW-UP INSPECTION: AFTER THE FIRST GROWING SEASON, THE SOD SHOULD BE INSPECTED TO DETERMINE IF ADDITIONAL FERTILIZATION OR LIMING IS NEEDED.

EROSION AND SEDIMENT CONTROL SUPPLEMENTAL NOTES

E&S PLANNING AND DESIGN §102.4(B)(4)

THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE THE EXTENT AND DURATION OF EARTH DISTURBANCE:
- ACCESS TO THE SITE THROUGH DESIGNATED CONSTRUCTION ENTRANCE
- SEQUENCE CONSTRUCTION ACTIVITIES BY LIMITING DISTURBANCES TO A SPECIFIC TASK SUCH THAT EACH TASK IS COMPLETED BEFORE THE NEXT TASK IS INITIATED
MAINTAIN EXISTING VEGETATION AT SITE WHERE PLAUSIBLE.

THE FOLLOWING MEASURES ARE TAKEN TO MAXIMIZE PROTECTION OF MISTING DRAINAGE FEATURES AND VEGETATION:
- ACCESS THE SITE THROUGH DESIGNATED CONSTRUCTION ENTRANCE
- UTILIZE THE EXISTING DRAINAGE PATTERNS AS MUCH AS POSSIBLE.
MAINTAIN EXISTING DRAINAGE PATTERNS TO POHI

THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE SOIL COMPACTION:
- ACCESS THE SITE THROUGH DESIGNATED CONSTRUCTION ENTRANCE
- USE OF TREADED MACHINERY MERE PRACTICAL DURING EARTHMOVING OPERATIONS

THE FOLLOWING MEASURES ARE TAKEN TO PREVENT OR MINIMIZE GENERATION OF INCREASED STORM WATER RUNOFF:
- UTILIZE INFILTRATION AS MUCH AS POSSIBLE IN SOCK, SILT FENCE WHILE NOT OVERLOADING ANY SPECIFIC BMP ENSURING LONGER SUSTAINABILITY OF THE EROSION AND SEDIMENT CONTROLS

RECYCLING OR DISPOSAL OF MATERIALS §102.4(B)(5)(XI)
1.) ANTICIPATED CONSTRUCTION WASTES INCLUDE BUT ARE NOT LIMITED TO: ONE-STORY/MASONRY BUILDINGS, ASPHALT DRIVES, SIDEWALK, PARKING AREAS, AND AREAS OF DUPLEX VEGETATION.
2.) ALL BUILDING MATERIAL AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED IN ACCORDANCE WITH DEPS SOLID WASTE REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1 ET SE., AND 287.1 ET SEQ., AND/OR ANY ADDITIONAL LOCAL, STATE, OR FEDERAL REGULATIONS. NO BUILDING MATERIALS (USED OR UNUSED) OR WATER MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.

POTENTIAL THERMAL IMPACT TO SURFACE WATERS §102.4(B)(5)(XIII)
THERMAL IMPACTS HAVE BEEN MINIMIZED IN THE E&S CONDITION THROUGH THE USE OF SILT SOXX TO ENSURE THAT RUNOFF FILTERS THROUGH A MEDIA, WHICH SHOULD REDUCE THE WATER TEMPERATURE OF STORMWATER FLOWS THAT WOULD OTHERWISE COME DIRECTLY FROM THE PAVEMENT.

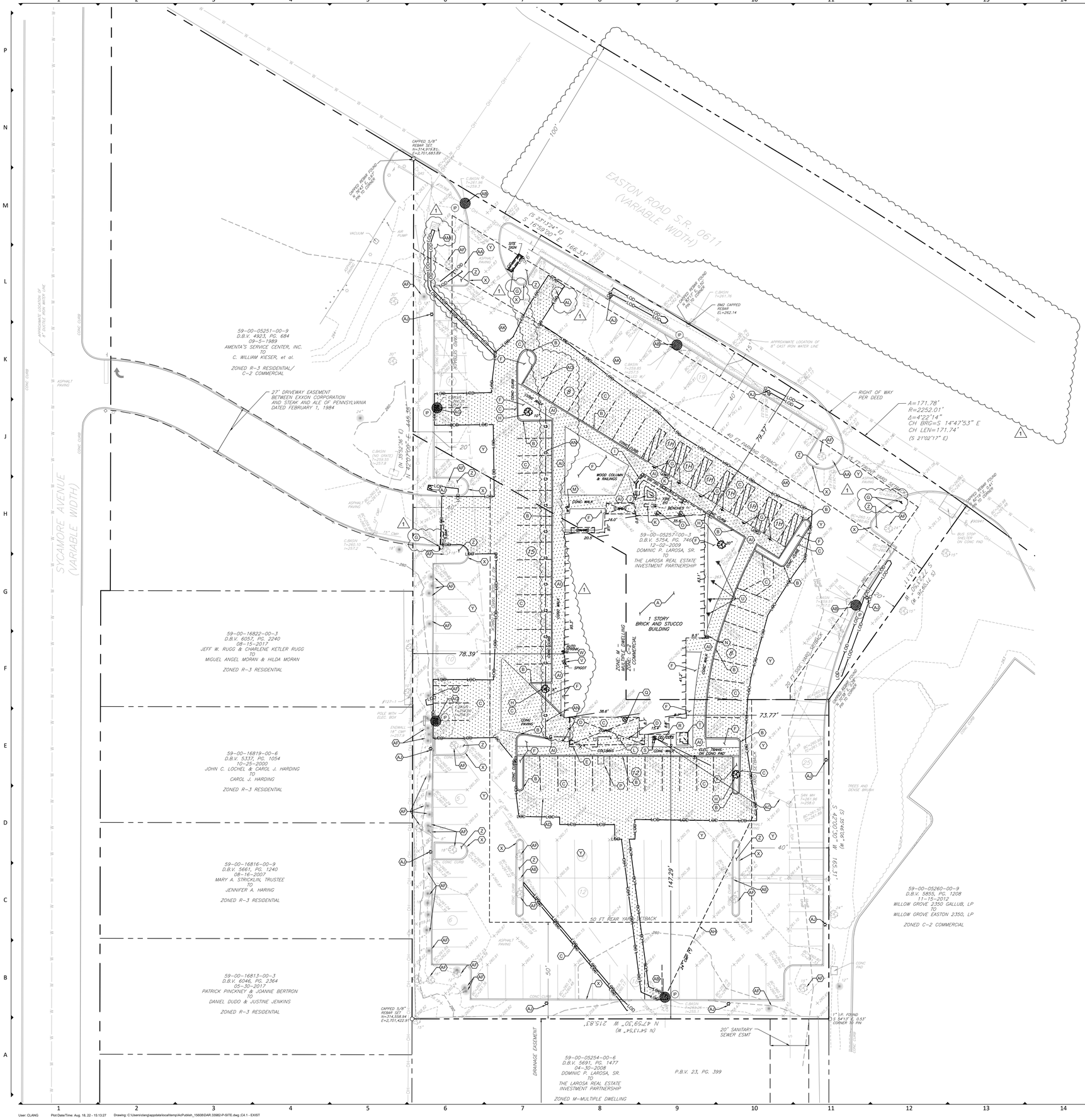
E&S PLAN DESIGNED AND IMPLEMENTED TO BE CONSISTENT WITH PCSM PLAN §102.4(B)(5)(XIV)
1.) THERE ARE NO EXISTING PROPOSED RIPARIAN BUFFERS OUTSIDE THE LIMIT OF DISTURBANCE

EXISTING/PROPOSED RIPARIAN FORREST BUFFERS §102.4(B)(5)(XV)
1.) THERE ARE NO EXISTING/PROPOSED RIPARIAN FOREST BUFFERS SHOWN ON THE PLAN MAPS.
2.) THERE ARE NO EXISTING/PROPOSED RIPARIAN FOREST BUFFERS OUTSIDE THE LIMIT OF DISTURBANCE.
3.) THERE ARE NO DELINEATED WETLANDS WITHIN THE PROPOSED LIMITS OF DISTURBANCE ON THIS SITE.

ANTIDEGRADATION ANALYSIS
EVALUATIONS OF NON-DISCHARGE ALTERNATIVE ONLY PERTAIN TO HQ OR EV WATERS PER THE PADEP & WATER QUALITY ANTIDEGRADATION DOCUMENT DATED NOV. 29, 2003. THE SUBJECT SITE IS LOCATED WITHIN THE PENNYPACK CREEK WATERSHED IN THE DELAWARE RIVER BASIN. THE CLOSEST RECEIVING WATER IS PENNYPACK CREEK WHICH HAS A TSF, MF CHAPTER 93 CLASSIFICATION.

SEEDING SPECIFICATIONS

1. SEEDING DATES
   A. SEEDING SHALL OCCUR BETWEEN MARCH 1ST AND MAY 15TH OR BETWEEN AUGUST 15TH AND NO LATER THAN OCTOBER 15TH.
   B. IF SEEDING CANNOT BE CONDUCTED DURING THE TIMEFRAMES NOTED ABOVE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL CONSERVATION DISTRICT AND ALL APPROPRIATE AGENCIES TO DETERMINE AN ACCEPTABLE MEANS IN WHICH TO STABILIZE THE SITE THROUGH THE NEXT GROWING SEASON.
2. SEED MIXTURES: SEED MIXTURE TO BE USED ON THIS SITE SHALL CONSIST OF THE FOLLOWING UNLESS OTHERWISE NOTED ON THE PLANS. RATES ARE IN THE FORM OF POUNDS PER ACRE (LB/A) PER PURE LIVE SEED (POUNDS / ACRE PLS). CONTRACTOR WILL NEED TO ADJUST ACCORDINGLY BASED ON THE SEED GERMINATION AND PURITY RATING (SEE ITEM #3 BELOW).
   A. TEMPORARY SEED MIXTURES: DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE DISTURBED AGAIN WITHIN TWELVE (12) MONTHS MUST BE SEEDED WITH A TEMPORARY SEED MIXTURE AS FOLLOWS:
      ANNUAL RYE (40 POUNDS / ACRE PLS)
      OR SPRING OATS (64 POUNDS / ACRE PLS) OR WINTER RYE (168 POUNDS / ACRE PLS)
      (REFERENCE: PENN STATE "EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND", TABLE 5)
   B. PERMANENT SEEDING SHALL CONSIST OF A NURSE CROP PLUS A PERMANENT SEED MIXTURE, AS FOLLOWS:
      I. NURSE CROP (SELECT ONE)
      ANNUAL RYE (10 POUNDS / ACRE PLS)
      OR SPRING OATS (64 POUNDS / ACRE PLS) OR WINTER RYE (56 POUNDS / ACRE PLS)
      (REFERENCE: PA DEP EROSION AND SEDIMENT CONTROL PROGRAM MANUAL, LATEST EDITION, TABLE 11.4, SEED MIX #1)
      II. PERMANENT SEED MIX:
      TALL FESCUES (64 POUNDS / ACRE PLS) OR FINE FESCUE (35 POUNDS / ACRE PLS)
      OR KENTUCKY BLUEGRASS (25 POUNDS / ACRE PLS) PLUS REDTOP (3 POUNDS / ACRE PLS) OR PERENNIAL RYEGRASS (15 POUNDS / ACRE PLS)
      (REFERENCE: PA DEP EROSION AND SEDIMENT CONTROL PROGRAM MANUAL, LATEST EDITION, TABLE 11.4, SEED MIX #2)
3. PURE LIVE SEED:
   A. SEED USED FOR THE PURPOSE OF PERMANENT STABILIZATION SHALL BE LABELED WITH GERMINATION AND PURITY PERCENTAGES. UNLABELED SEED WILL BE REJECTED. SEED SHALL NOT BE USED MORE THAN ONE (1) YEAR BEYOND THE LABEL DATE.
   B. DETERMINING THE PERCENT PURE LIVE SEED (PERCENT PLS) OF A LABELED SEED: MULTIPLY BY THE PERCENTAGE OF PURE SEED BY THE PERCENTAGE OF GERMINATION AND DIVIDE THE RESULT BY 100 ((% PURE X % GERMINATION) / 100).
   C. DETERMINING THE AMOUNT OF SEED TO USE: SIMPLY DIVIDE THE PERCENT PLS RATIO INTO THE PLS REQUIRED, AS NOTED ABOVE. THE RESULT IS THE POUNDS OF SEED REQUIRED. FOR EXAMPLE: IF THE REQUIRED RATE IS 64 POUNDS PLS, AND THE SEED MIX IS RATED AT 35% PLS, DIVIDE 64 BY 0.35 TO GET 182.9 POUNDS, WHICH IS THE AMOUNT OF THAT SEED REQUIRED PER ACRE.
4. APPLICATION OF SEED: SEEDING SHALL BE APPLIED AND ESTABLISHED IN ACCORDANCE WITH THE "EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL" AS PUBLISHED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF WATER QUALITY PROTECTION (MOST RECENT EDITION).
   A. SEED SHALL BE APPLIED IN A NON-COMPACTED, ROUGHENED TOPSOIL.
   B. SEED MAY BE APPLIED THROUGH ANY OF THE FOLLOWING MEANS AND METHODS, OR OTHER ACCEPTED INDUSTRY PRACTICES, UNLESS SPECIFICALLY NOTED OTHERWISE ON THESE PLANS:
      I. DRILL SEEDING
      II. BROADCAST SEEDING (TWO DIRECTIONS)
      III. HYDROSEEDING (TWO DIRECTIONS)
   C. ALL SEED SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED UNTIL A 70% PERENNIAL COVER IS ACHIEVED:
      I. TEMPORARY STABILIZATION WITH STRAW:
         1. STRAW MULCH SHALL BE APPLIED ON TOP OF THE FRESHLY SEEDED AREAS AT A RATE OF 3 TONS PER ACRE (4 TONS PER ACRE BETWEEN NOVEMBER 1ST AND MARCH 1ST).
         2. STRAW SHALL BE STABILIZED WITH A WOOD OR PAPER FIBER AND TACKIFIER SOLUTION IN ACCORDANCE WITH THE PRODUCT



DEMO NOTES:

1. REFER TO SHEET C2.1 FOR GENERAL CONSTRUCTION NOTES.
2. REFER TO SHEET C5.1 FOR CIVIL SITE PLAN / DIMENSIONAL CONTROL.
3. REFER TO SHEET C6.1 FOR OVERALL GRADING AND DRAINAGE PLAN.
4. REFER TO SHEET C7.1 FOR UTILITY PLAN.
5. REFER TO SHEET LP-1 FOR LANDSCAPE PLAN.
6. ALL DIMENSIONS ARE TO GROUND LEVEL IMPROVEMENTS (FACE OF CURB, CONCRETE SLAB, ETC.) UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL PLANS FOR BUILDING DETAILS.
7. ALL DIMENSIONS FROM PROPERTY LINES ARE PERPENDICULAR UNLESS OTHERWISE NOTED.
8. CONTRACTOR TO SEED ALL DISTURBED AREA UNLESS NOTED OTHERWISE.
9. EXISTING STORM SEWERS DENOTED WITH (*) DIFFER FROM WHAT IS SHOWN ON THE REFERENCED SURVEY DUE TO CONSTRUCTION DRAWINGS RECEIVED FROM THE TOWNSHIP. SPECIFICALLY THE "GRADING AND UTILITY PLAN MADE FOR BENNIGAN'S RESTAURANT" PREPARED BY CHARLES E. SHOEMAKER, INC. DATED JULY 15, 1983 REVISED NOVEMBER 7, 1983.

DEMO KEY NOTES:

A. EXISTING BUILDING TO BE REMOVED.
B. EXISTING CURB TO BE REMOVED.
C. EXISTING PAVEMENT TO BE REMOVED.
D. EXISTING BOLLARD TO BE REMOVED. (TYP.)
E. EXISTING FENCE TO BE REMOVED.
F. EXISTING LANDSCAPE AREA TO CLEARED AND GRUBBED.
G. EXISTING SIGN AND BASES TO BE REMOVED.
H. EXISTING TREE TO BE REMOVED.
I. EXISTING WOOD COLUMN AND RAILING TO BE REMOVED.
J. EXISTING FIRE PIT TO BE REMOVED.
K. EXISTING BENCHES TO BE REMOVED.
L. EXISTING BUILDING COLUMNS TO BE REMOVED (TYP.)
M. EXISTING FLAG POLE AND BASE TO BE REMOVED.
N. EXISTING ROOF DRAIN TO BE REMOVED. (TYP.)
O. EXISTING ELECTRIC STRUCTURE TO BE REMOVED.
P. EXISTING ELECTRIC CONDUIT TO BE REMOVED. CONTRACTOR TO COORDINATE WITH THE PUBLIC ELECTRIC COMPANY FOR REMOVAL PRIOR TO CONSTRUCTION.
Q. EXISTING GAS STRUCTURE TO BE REMOVED. CONTRACTOR TO COORDINATE WITH THE PUBLIC GAS COMPANY FOR GAS LINE LOCATION AND REMOVAL PRIOR TO CONSTRUCTION.
R. EXISTING SANITARY LINE TO BE REMOVED. CONTRACTOR TO COORDINATE WITH PUBLIC SEWER COMPANY FOR LOCATION AND REMOVAL PRIOR TO CONSTRUCTION.
S. EXISTING CLEANOUT TO BE REMOVED.
T. EXISTING TRANSFORMER AND PAD TO BE RELOCATED.
U. EXISTING LIGHT FIXTURE TO BE REMOVED.
V. EXISTING SPIGOT TO BE REMOVED.
W. EXISTING AUTO SPRINKLER TO BE REMOVED.
X. EXISTING CURB TO REMAIN. CONTRACTOR TO PROTECT IN PLACE.
Y. EXISTING PAVEMENT TO REMAIN. CONTRACTOR TO PROTECT IN PLACE.
Z. EXISTING LANDSCAPE AREA TO REMAIN. CONTRACTOR TO PROTECT IN PLACE.
AA. EXISTING SIGN TO REMAIN. CONTRACTOR TO PROTECT IN PLACE.
AB. EXISTING STORM INLET TO REMAIN. CONTRACTOR TO PROTECT IN PLACE.
AC. EXISTING SANITARY LINE TO REMAIN. CONTRACTOR TO PROTECT IN PLACE.
AD. EXISTING ELECTRIC LINE TO REMAIN. CONTRACTOR TO PROTECT IN PLACE.
AE. EXISTING LIGHT TO REMAIN. CONTRACTOR TO PROTECT IN PLACE.
AF. EXISTING TREE TO REMAIN. CONTRACTOR TO PROTECT IN PLACE.
AG. EXISTING INLET GRATE TO BE REMOVED AND REPLACED WITH A INLET CONVERSION FRAME AND COVER WITH 24" MANHOLE.
AH. EXISTING STORM SEWER TO BE ABANDONED IN PLACE. CONTRACTOR TO USE NON-SHRINKING GROUT.
AI. EXISTING CONCRETE SIDEWALK TO BE REMOVED.
AJ. EXISTING LIGHT POLE TO BE REMOVED. CONTRACTOR TO SET FIXTURE AND POLE ASIDE FOR REUSE IF POSSIBLE.
AK. EXISTING PAVEMENT TO BE MILLED AND OVERLAYED. REFER TO SHEET C5.1 FOR MILL AND OVERLAY AREAS.
AL. EXISTING DOMESTIC WATER METER PIT TO REMAIN AND BE REUSED. CONTRACTOR TO PROTECT IN PLACE.
AM. EXISTING FIRE SERVICE METER PIT TO REMAIN AND BE REUSED. CONTRACTOR TO PROTECT IN PLACE.
AN. APPROXIMATE LOCATION OF EXISTING GAS LINE TO BE REMOVED.
AO. APPROXIMATE LOCATION OF EXISTING GAS LINE TO REMAIN. CONTRACTOR TO PROTECT IN PLACE.

EXISTING CONDITIONS LEGEND

- EXISTING PROPERTY BOUNDARY LINE
- EXISTING ADJOINING PROPERTY LINE
- EXISTING SETBACK
- EXISTING ZONING BOUNDARY
- EXISTING BUILDING
- EXISTING CONCRETE
- EXISTING PAVEMENT MARKING
- EXISTING CURB
- EXISTING FENCE
- EXISTING VEGETATION
- EXISTING SIGNAGE
- EXISTING BOLLARD
- EXISTING 5' INTERVAL CONTOUR LINE
- EXISTING 1' INTERVAL CONTOUR LINE
- EXISTING WATER LINE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD WIRES
- EXISTING SANITARY
- EXISTING STORM
- EXISTING UTILITY VAULT
- EXISTING UTILITY POLE
- EXISTING STORM STRUCTURES
- EXISTING SANITARY STRUCTURES
- EXISTING WATER STRUCTURES
- EXISTING GAS VALVE
- EXISTING ELECTRIC STRUCTURE
- EXISTING LIGHT POLE
- EXISTING SOIL BOUNDARY
- DEMO OVERHANG
- DEMO ROOF DRAIN
- DEMO AUTO SPRINKLER
- DEMO SPIGOT
- DEMO FLAG POLE
- DEMO BUILDING
- DEMO HARDSCAPE
- DEMO CURB
- DEMO VEGETATION
- DEMO SIGNAGE
- DEMO BOLLARD
- DEMO LIGHT POLE
- DEMO GAS VALVE
- DEMO ELECTRIC STRUCTURE
- DEMO FENCE
- DEMO CLEANOUT
- DEMO PAVEMENT MARKING
- PROPOSED LIMIT OF DISTURBANCE
- PROPOSED INLET PROTECTION. REFER TO DETAIL ON SHEET C3.2

GRAPHIC SCALE
20 10 5 0 20
1" = 20'

Know what's below. Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED TO INVESTIGATE AND VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RESEARCH OF DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, FIELD OBSERVATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IN THE EVENT THAT LOCATIONS SHOWN ARE INCORRECT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

CORE STATES GROUP
201 S. Maple Avenue
Ambler, PA 19002
Phone (215) 809-2125
BSearcy@core-states.com

DOCUMENTS PREPARED BY CORESTATES, INC., INCLUDING THIS DOCUMENT, ARE TO BE USED ONLY FOR THE SPECIFIC PROJECT AND SPECIFIC USE FOR WHICH THEY WERE INTENDED. ANY EXTENSION OF USE TO ANY OTHER PROJECTS, BY OWNER OR BY ANY OTHER PARTY, WITHOUT THE EXPRESSED WRITTEN CONSENT OF CORESTATES, INC. IS DONE UNLAWFULLY AND AT THE USERS OWN RISK. IF USED IN A WAY OTHER THAN THAT SPECIFICALLY INTENDED, USER WILL HOLD CORESTATES, INC. HARMLESS FROM ALL CLAIMS AND LOSSES.

Olive Garden ITALIAN KITCHEN

ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA REGISTERED ENGINEER BRIAN L. SEARCY PROFESSIONAL ENGINEER

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date:	04.27.2022

REVISION INFORMATION

1 08-18-2022 AGENCY REVISIONS

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD
WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing

DEMOLITION PLAN

C4.1

User: CLANG Plot Date/Time: Aug. 18, 22 - 15:13:27 Drawing: C:\Users\clang\appdata\local\temp\AcPublish_15608\DAR.33982-P-SITE.dwg, C4.1 - EXIST

IMPERVIOUS COVERAGE CALCULATIONS		
ITEM	EXISTING	PROPOSED
PERVIOUS AREA	16,033 SF / 0.37 AC. (18.4%)	18,218 SF / 0.42 AC. (20.9%)
IMPERVIOUS AREA	71,118 SF / 1.63 AC. (81.6%)	68,933 SF / 1.58 AC. (79.1%)
PROPOSED NEW IMPERVIOUS AREA	N/A	33,849 SF / 0.78 AC.
TOTAL AREA (NOT INCLUDING R.O.W.)	87,151 SF / 2.00 AC.	87,151 SF / 2.00 AC.

ACKNOWLEDGEMENT OF OWNER

ON THE _____ DAY OF _____, 20___ BEFORE ME, THE SUBSCRIBER, A NOTARY PUBLIC OF THE COMMONWEALTH OF PENNSYLVANIA, RESIDING IN _____ COUNTY, PERSONALLY APPEARED _____ WHO ACKNOWLEDGED (HIMSELF/HERSELF) TO BE THE _____ OF DARDEN CORPORATION, A CORPORATION, AND THAT AS SUCH, BEING AUTHORIZED TO DO SO, (HE/SHE) EXECUTED THE FOREGOING PLAN BY SIGNING THAT THE SAID CORPORATION IS THE REGISTERED OWNER OF THE DESIGNATED LAND, AND ALL NECESSARY APPROVALS OF THE PLAN HAVE BEEN OBTAINED AND ARE ENDORSED THEREON; THAT SAID CORPORATION DESIRES THAT THE FOREGOING PLAN BE RECORDED ACCORDING TO LAW. WITNESS MY HAND AND NOTARIAL SEAL, THE DAY AND YEAR AFORESAID.

MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC OR OTHER OFFICER

_____
TITLE
DARDEN CORPERTATION

RECORDED IN THE OFFICE OF RECORDER OF DEEDS OF MONTGOMERY COUNTY, NORRISTOWN, PENNSYLVANIA IN PLAN BOOK ____, PAGE _____, ON THE ____ DAY OF _____, 20___.

MCPC No. _____

PROCESSED and REVIEWED. Report prepared by Montgomery County Planning Commission
In accordance with the Municipalities Planning Code.

Certified on this date _____

_____
For the Director

Montgomery County Planning Commission

ZONING DATA
C-2 - COMMERCIAL DISTRICTS & M - MULTIPLE DWELLING DISTRICT

ITEM	REQUIRED - C2	REQUIRED - M (*)	EXISTING	PROPOSED	COMPLIANCE
MINIMUM FRONT YARD	15 FT	DUPLEX - AGGREGATE DEPTH OF 50 FEET WITH REAR, BUT NEITHER YARD LESS THAN 20 FEET. GARDEN APT/TOWNHOMES - 50 FT	79.37 FT	85.1 FT	COMPLIANT
MINIMUM SIDE YARD	20 FT OR 30 FT ABUTTING A RESIDENTIAL DISTRICT	DUPLEX - 10 FT GARDEN APT/TOWNHOMES - 40 FT & LANDSCAPED BUFFER OF 25 FT	73.77 FT	61.3 FT	COMPLIANT
MINIMUM REAR YARD	30 FT	DUPLEX - AGGREGATE DEPTH OF 50 FEET WITH REAR, BUT NEITHER YARD LESS THAN 20 FEET. GARDEN APT/TOWNHOMES - 50 FT	147.29 FT	182.0 FT	COMPLIANT
MAXIMUM BUILDING HEIGHT	35 FT OR 3 STORIES, WHICHEVER IS LESS	45 FT OR 3 STORIES	<35 FT	25.75 FT	COMPLIANT
MINIMUM LOT SIZE	20,000 SF	DUPLEX - 7,500 SF FOR EACH DWELLING UNIT	87,151 SF (2.00 AC.)	NO CHANGE	COMPLIANT
MINIMUM TRACT AREA	-	DUPLEX - 4 AC. GARDEN APT/TOWNHOMES - 4 AC. WITH NOT MORE THAN ONE DWELLING UNIT FOR EACH 7,500 SQUARE FEET OF LOT AREA YARDS	87,151 SF (2.00 AC.)	NO CHANGE	EXISTING NON-CONFORMITY
MINIMUM LOT WIDTH	65 FT AT BUILDING LINE	-	328 FT	NO CHANGE	COMPLIANT
MINIMUM LOT DEPTH	100 FT AT ANY ONE POINT FROM THE STREET LINE ON A LINE PERPENDICULAR THERETO.	-	123.11 FT	NO CHANGE	COMPLIANT
MAXIMUM BUILDING COVERAGE	NO LESS THAN 2,000 SF AND 30%	40%	7,127 SF (8.2%)	6,501 SF (7.5%)	COMPLIANT
MAXIMUM IMPERVIOUS COVERAGE	60%	50%	81.6% (**)	79.1% (**) 1	EXISTING NON-CONFORMITY
PARKING SETBACK	40 FT IN FRONT YARD	-	9.6 FT (**)	NO CHANGE	EXISTING NON-CONFORMITY

(*) - THE M - MULTIPLE DWELLING DISTRICT LIST REGULATIONS FOR TWO USES WHICH ARE NOT PROPOSED: DUPLEX & GARDEN APARTMENTS / TOWNHOMES

(**) - EXISTING NON CONFORMITY

GENERAL NOTES

THIS DRAWING REFERENCES: ALTA/NSPS LAND TITLE SURVEY
2402 EASTON ROAD
UPPER MORELAND TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA
CIVIL & ENVIRONMENTAL CONSULTANTS, INC
333 BALDWIN ROAD
PITTSBURGH, PA 15205

SITE ADDRESS: 2402 EASTON ROAD
WILLOW GROVE, PA 19090
MONTGOMERY COUNTY

1) PARCEL INFORMATION: PARCEL ID 59-00-05257-00-3
87,339 SQ. FT. / 2.005 AC.
ZONED: C-2 - COMMERCIAL DISTRICTS & M - MULTIPLE DWELLING DISTRICT
EXISTING USE: RESTAURANT
PROPOSED USE: RESTAURANT (PERMITTED USE IN C-2 DISTRICT WITH SPECIAL EXCEPTION BY THE ZONING HEARING BOARD. NOT A PERMITTED USE IN M DISTRICT)

2) PARKING REQUIREMENTS: PER § 350-178.RESTAURANTS REQUIRE ONE PARKING SPACE FOR EVERY TWO SEATS OR ONE SPACE FOR EVERY 50 SQUARE FEET OF GROSS FLOOR AREA EXCLUSIVE OF BASEMENTS IF NOT DEVOTED TO THE USE OF PATRONS, WHICHEVER IS THE LARGER, TOGETHER WITH ONE SPACE FOR EACH EMPLOYEE ON THE SHIFT HAVING THE LARGEST NUMBER OF EMPLOYEES. FIFTY ADDITIONAL SPACES SHALL BE PROVIDED WHERE SUCH ESTABLISHMENT SERVES FOOD OR BEVERAGES FOR CONSUMPTION UPON THE PREMISES OUTSIDE OF THE BUILDING ERECTED THEREON.

PER ADA REQUIREMENTS, PARKING LOTS WITH 151-200 SPACES MUST PROVIDE 6 ACCESSIBLE PARKING SPACES, INCLUDING AT LEAST 1 VAN ACCESSIBLE SPACE

3) PARKING CONDITIONS: EXISTING: 167 SPACES INCLUDING 6 ACCESSIBLE SPACES
PROPOSED: 158 SPACES INCLUDING 6 ACCESSIBLE SPACES
REQUIRED: (6,501 SF / 50 SF) + (1 SPACE + 28 EMPLOYEES AT THE HIGHEST EMPLOYMENT LEVEL) = 130 + 28 SPACES = 158 SPACES

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS ARE IN CONFORMANCE WITH ENGINEERING, ZONING, BUILDING, SANITATION, AND OTHER APPLICABLE ORDINANCES OF THIS TOWNSHIP, AND HAVE BEEN PREPARED IN ACCORDANCE WITH ACT 367 OF THE COMMONWEALTH OF PENNSYLVANIA, KNOWN AS THE "ENGINEER, LAND SURVEYOR, AND GEOLOGIST REGISTRATION LAW" (P.L. 913, No. 367), AS AMENDED.

_____ _____
SIGNATURE OF ENGINEER DATE

083256
PENNSYLVANIA P.E. LICENSE NUMBER

SITE KEYNOTES: ⟨XX⟩

A. PROPOSED OLIVE GARDEN BUILDING.
B. PROPOSED LANDSCAPE AREA.
C. PROPOSED FLUSH CURB. REFER TO DETAIL ON SHEET C8.1
D. PROPOSED 6" CURB. REFER TO DETAIL ON SHEET C8.1.
E. PROPOSED CONCRETE SIDEWALK. REFER TO DETAIL ON SHEET C8.1.
F. PROPOSED CONCRETE PAD FOR ADA PARKING STALLS. REFER TO DETAIL ON SHEET C8.1.
G. PROPOSED PARKING STRIPING. REFER TO DETAIL ON SHEET C8.1.
H. PROPOSED ACCESSIBLE PARKING SPACES AND AISLES. REFER TO DETAIL ON SHEET C8.1.
I. PROPOSED ACCESSIBLE PARKING SIGNAGE WITH BOLLARD. REFER TO DETAIL ON SHEET C8.1.
J. PROPOSED VAN ACCESSIBLE PARKING SIGNAGE WITH BOLLARD.REFER TO DETAIL ON SHEET C8.1.
K. PROPOSED ASPHALT PAVEMENT. REFER TO DETAIL ON SHEET C8.1.
L. EXISTING STOP BAR TO BE RESTRIPED IN KIND. STRIPING TO BE THERMOPLASTIC.
M. PROPOSED TRASH ENCLOSURE.
N. PROPOSED OLIVE GARDEN SIGN. REFER TO SIGN PACKAGE.
O. PROPOSED BUILDING CANOPY.
P. PROPOSED CONCRETE PAD FOR DUMPSTER PAD. REFER TO DETAIL ON SHEET C8.1.
Q. PROPOSED PRECAST TYPE M INLET. REFER TO DETAIL ON SHEET C8.2.
R. PROPOSED PRECAST TYPE C INLET. REFER TO DETAIL ON SHEET C8.2.
S. PROPOSED OUTFALL CONTROL STRUCTURE. REFER TO DETAIL ON SHEET C8.2.
T. PROPOSED PRECAST MANHOLE. REFER TO DETAIL ON SHEET C8.2 & C8.3.
U. PROPOSED PENNDOT STANDARD INLET CONVERSION LID. REFER TO DETAIL ON SHEET C8.2.
V. PROPOSED 12" NYLOPLAST YARD DRAIN WITH STANDARD GRATED LID. REFER TO DETAIL ON SHEET C8.3.
W. PROPOSED 12" NYLOPLAST YARD DRAIN WITH DOMED GRATED LID. REFER TO DETAIL ON SHEET C8.3.
X. PROPOSED RELOCATED TRANSFORMER WITH 7 FT X 7 FT CONCRETE PAD. CONTRACTOR TO COORDINATE WITH PUBLIC ELECTRIC SERVICE COMPANY.
Y. PROPOSED BENCH (TYP.).
Z. PROPOSED ASHTRAY (TYP.).
AA. PROPOSED DETECTABLE WARNING SURFACE. REFER TO DETAIL ON SHEET C8.1.
AB. PROPOSED ACCESS MANHOLE FOR GREASE INTERCEPTOR. REFER TO DETAIL OF SHEET C8.1.
AC. PROPOSED MILL AND OVERLAY AREA. REFER TO DETAIL OF SHEET C8.1.
AD. PROPOSED LIGHT POLE AND BASE. CONTRACTOR TO REUSE EXISTING LIGHT POLES TO BE REMOVED IF POSSIBLE. REFER TO DETAIL ON SHEET C8.3. REFER TO LIGHTING PLAN FOR SPECIFICATIONS.
AE. PROPOSED LIGHT FIXTURE ON EXISTING LIGHT POLE TO REMAIN. REFER TO LIGHTING PLAN FOR SPECIFICATIONS.
AF. PROPOSED ELECTRICAL CONDUIT TRENCHING. REFER TO DETAIL ON SHEET C8.1.
AG. EXISTING CURB TO BE REPLACED IN KIND FOR PROPOSED ELECTRICAL TRENCHING.
AH. PROPOSED "TO GO" PAVEMENT MARKING (TYP.)
AI. PROPOSED "DO NOT ENTER" PAVEMENT MARKING. REFER TO DETAIL ON SHEET C8.1.
AJ. DESIGNATED LOADING AND UNLOADING SPACE (10' X 25'). ONLY TO BE UTILIZED OUTSIDE NORMAL OPERATING HOURS.
AK. PROPOSED "STOP" SIGN. REFER TO DETAIL ON SHEET C8.4.
AL. PROPOSED "DO NOT ENTER" SIGN. REFER TO DETAIL ON SHEET C8.4.
AM. PROPOSED "ONE-WAY" SIGN. REFER TO DETAIL ON SHEET C8.4.
AN. PROPOSED 18" WALK OFF CURB.
AO. PROPOSED BOLLARD FOR BUILDING PROTECTION.

SITE NOTES:

1. REFER TO SHEET C2.1 FOR GENERAL CONSTRUCTION NOTES.
2. REFER TO SHEET C4.1 FOR EXISTING CONDITIONS PLAN.
3. REFER TO SHEET C6.1 FOR OVERALL GRADING AND DRAINAGE PLAN.
4. REFER TO SHEET C7.1 FOR UTILITY PLAN.
5. REFER TO SHEET LP-1 FOR LANDSCAPE PLAN.
6. ALL DIMENSIONS ARE TO GROUND LEVEL IMPROVEMENTS (FACE OF CURB, CONCRETE SLAB, ETC.) UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL PLANS FOR BUILDING DETAILS.
7. ALL DIMENSIONS FROM PROPERTY LINES ARE PERPENDICULAR UNLESS OTHERWISE NOTED.
8. CONTRACTOR TO SEED ALL DISTURBED AREA UNLESS NOTED OTHERWISE.
9. IT WAS DECIDED ON JULY 7, 2022 MEETING TO OFFER THE AREA BETWEEN THE EXISTING CURBLINE LINE AND THE ULTIMATE RIGHT-OF-WAY LINE SHALL BE OFFERED FOR DEDICATION TO TOWNSHIP.
10. THE EXISTING SCREEN FENCE ALONG THE SOUTHERN PROPERTY BOUNDARY IS TO BE REPAIRED TO MAINTAIN THE SCREENING VALUE AND APPEARANCE OF THIS FENCE, OR A NEW FENCE INSTALLED.
11. IT WAS DECIDED ON JULY 7, 2022 MEETING THAT SYCAMORE AVENUE IS TO BE A DESIGNATED FIRE LANE.

SITE LEGEND

EXISTING PROPERTY BOUNDARY LINE
EXISTING ADJOINING PROPERTY LINE
EXISTING SETBACK
EXISTING ZONING BOUNDARY
EXISTING BUILDING
EXISTING CONCRETE
EXISTING PAVEMENT MARKING
EXISTING CURB
EXISTING FENCE
EXISTING VEGETATION
EXISTING SIGNAGE
EXISTING BOLLARD
EXISTING OVERHEAD WIRES
EXISTING UTILITY VAULT
EXISTING UTILITY POLE
EXISTING STORM STRUCTURES
EXISTING SANITARY STRUCTURES
EXISTING WATER STRUCTURES
EXISTING GAS VALVE
EXISTING ELECTRIC STRUCTURE
EXISTING LIGHT POLE
PROPOSED CURB
PROPOSED FLUSH CURB
PROPOSED BUILDING
PROPOSED SAWCUT LINE
PROPOSED CONCRETE
PROPOSED PARKING STRIPING
PROPOSED SIGN
PROPOSED DETECTABLE WARNING SURFACE
PROPOSED STORM STRUCTURE
PROPOSED SANITARY STRUCTURE
PROPOSED ASPHALT
PROPOSED MILL AND OVERLAY
PROPOSED LIGHT FIXTURES

GRAPHIC SCALE
20 10 5 0 20
1" = 20'

811 Know what's below. Call before you dig.
THE CONTRACTOR IS SPECIFICALLY CAUTIONED TO FIELD LOCATE AND VERIFY THE ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN DRAWINGS AND/OR FIELD SURVEY INFORMATION AND MAY REQUIRE FIELD ADJUSTMENTS THEREIN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST THREE WORKING DAYS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

FRONT WALK DIMENSIONAL INSET

SCALE: 1"=10'

GRAPHIC SCALE
10 5 2.5 0 10
1" = 10'

UPPER MORELAND TOWNSHIP CERTIFICATIONS

APPROVAL NOTATION BY THE TOWNSHIP SHALL BE AS FOLLOWS:
APPROVED BY THE BOARD OF COMMISSIONERS OF UPPER MORELAND TOWNSHIP THIS _____ DAY OF _____, 20___.

_____
PRESIDENT
ATTEST:

_____
TOWNSHIP SECRETARY

_____
TOWNSHIP ENGINEER

CORESTATES GROUP
201 S. Maple Avenue
Ambler, PA 19002
Phone (215) 809-2125
BSearcy@core-states.com

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Olive Garden ITALIAN KITCHEN

ENGINEER SEAL
COMMONWEALTH OF PENNSYLVANIA REGISTERED ENGINEER BRIAN L. SEARCY PROFESSIONAL ENGINEER
08/18/2022
BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION
1 08-18-2022 AGENCY REVISIONS

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD
WILLOW GROVE, PA 19090

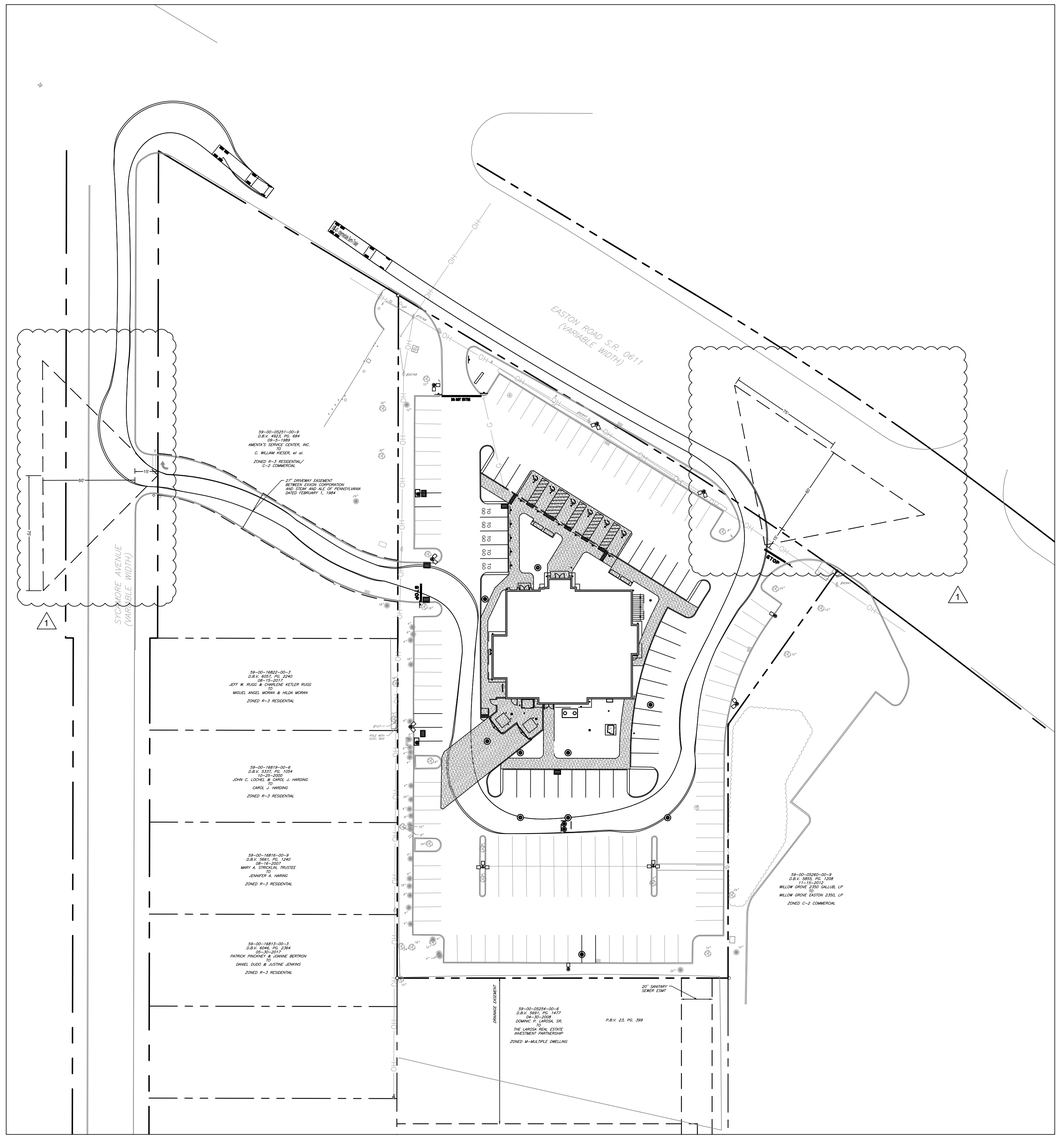
AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing
CIVIL SITE PLAN / DIMENSIONAL CONTROL

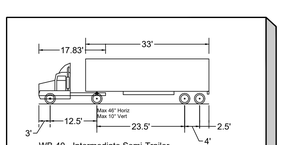
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WB-40 ACCESS PLAN

SCALE: 1" = 40'



WB-40 - Intermediate Semi-Trailer	
Overall Length	45.500ft
Overall Width	8.000ft
Overall Body Height	12.052ft
Min Body Ground Clearance	1.334ft
Track Width	8.000ft
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	40.000ft

WB-40

SCALE: N.T.S

GRAPHIC SCALE

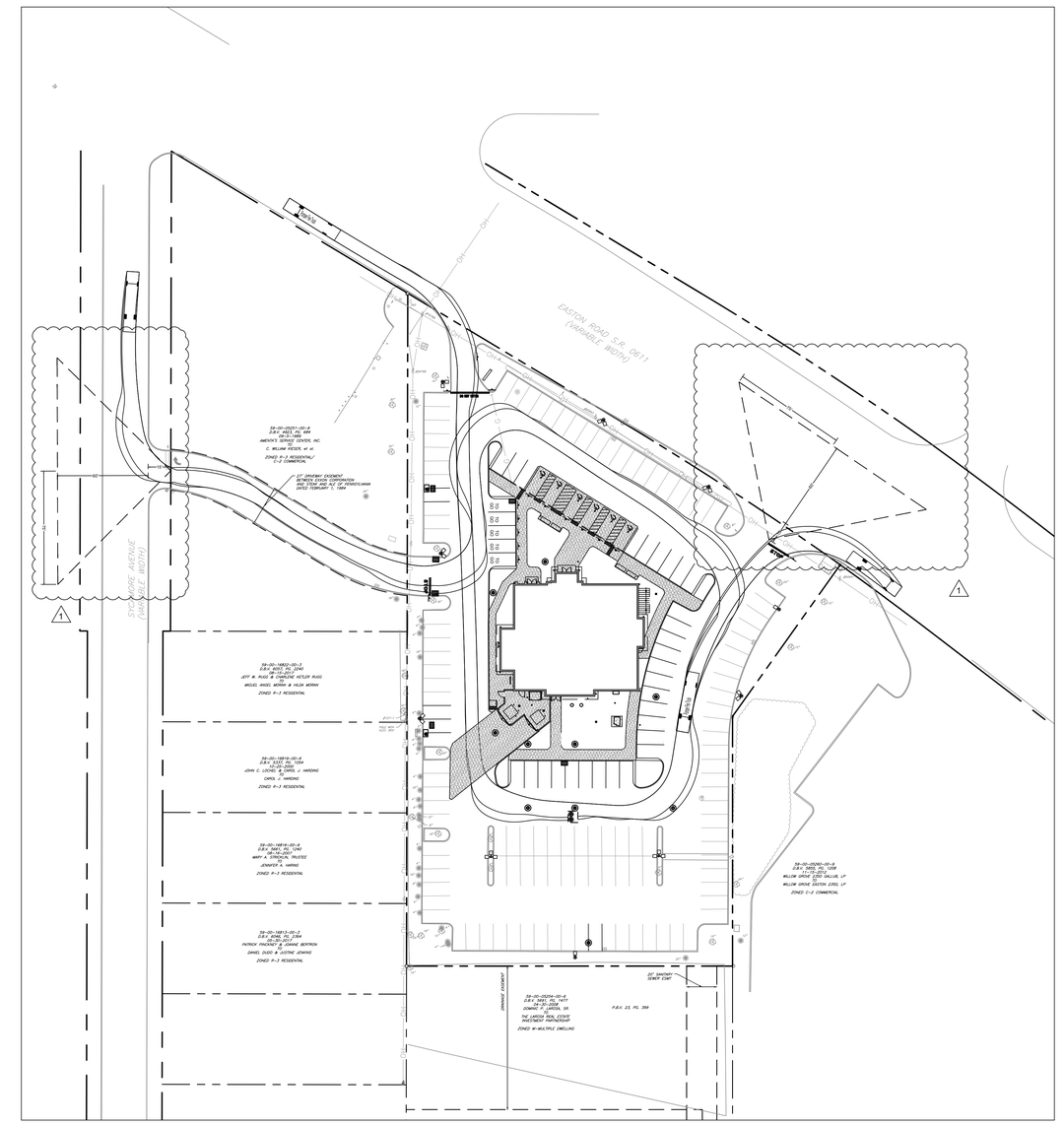
40 20 10 0 40

1" = 40'

DELIVERY NOTES:

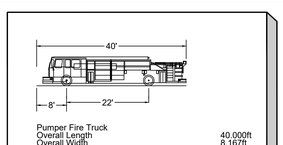
1. DELIVERIES ARE TO TAKE PLACE OUTSIDE OF NORMAL OPERATING HOURS.

1



PUMPER FIRE TRUCK ACCESS PLAN

SCALE: 1" = 40'



Pumper Fire Truck	
Overall Length	40.000ft
Overall Width	8.167ft
Overall Body Height	7.745ft
Min Body Ground Clearance	0.656ft
Track Width	8.167ft
Lock-to-lock time	5.00s
Max Wheel Angle	45.00°

PUMPER FIRE TRUCK

SCALE: N.T.S

GRAPHIC SCALE

40 20 10 0 40

1" = 40'

Know what's below. Call before you dig.

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Olive Garden ITALIAN KITCHEN

ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED ENGINEER
BRIAN L. SEARCY
ENGINEER
PROFESSIONAL

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION

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OLIVE GARDEN

2402 EASTON ROAD

WILLOW GROVE, PA 19090

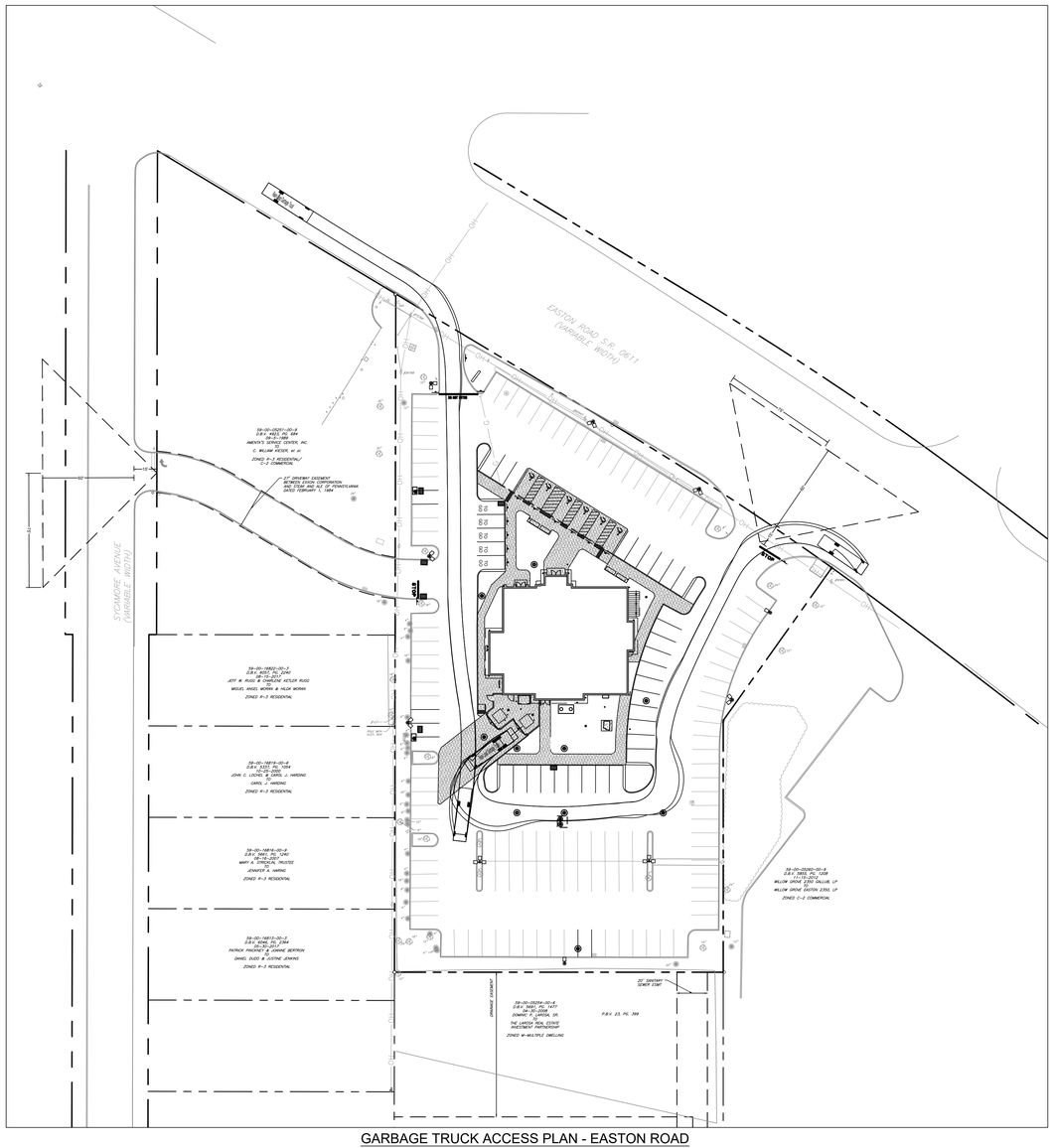
AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing

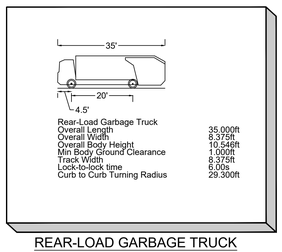
VEHICULAR ACCESS PLAN

C5.2



GARBAGE TRUCK ACCESS PLAN - EASTON ROAD

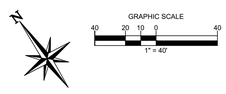
SCALE: 1" = 40'

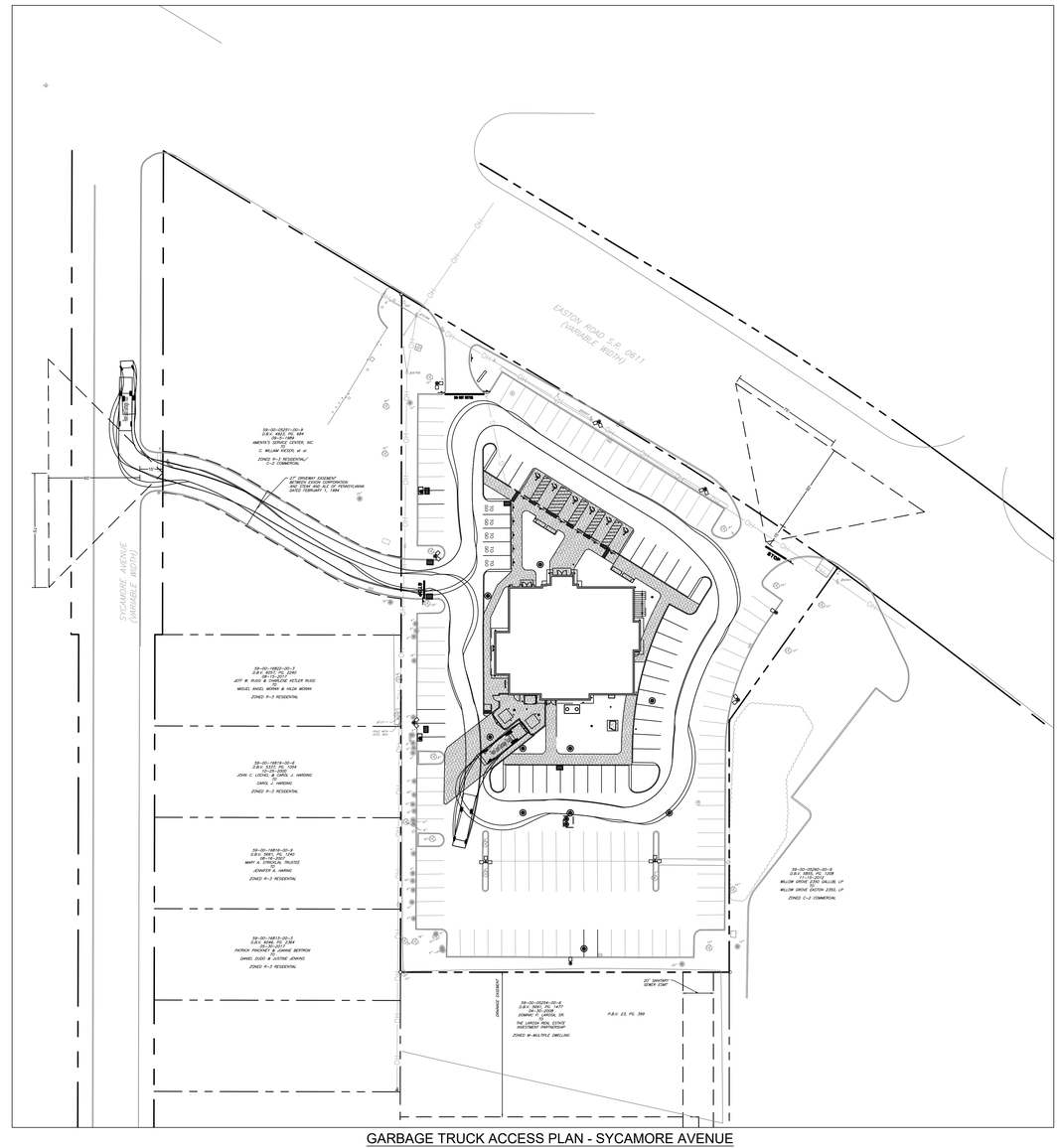


Rear-Load Garbage Truck	
Overall Length	35.000ft
Overall Width	8.375ft
Overall Body Height	10.546ft
Min Body Ground Clearance	1.000ft
Track Width	8.375ft
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	29.300ft

REAR-LOAD GARBAGE TRUCK

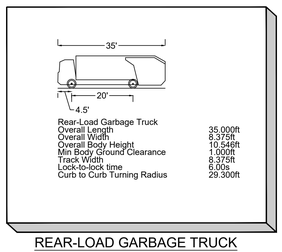
SCALE: N.T.S





GARBAGE TRUCK ACCESS PLAN - SYCAMORE AVENUE

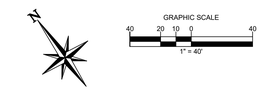
SCALE: 1" = 40'



Rear-Load Garbage Truck	
Overall Length	35.000ft
Overall Width	8.375ft
Overall Body Height	10.546ft
Min Body Ground Clearance	1.000ft
Track Width	8.375ft
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	29.300ft

REAR-LOAD GARBAGE TRUCK

SCALE: N.T.S



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Olive Garden ITALIAN KITCHEN

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED ENGINEER
BRIAN L. SEARCY
ENGINEER
PROFESSIONAL

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

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Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD
WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing

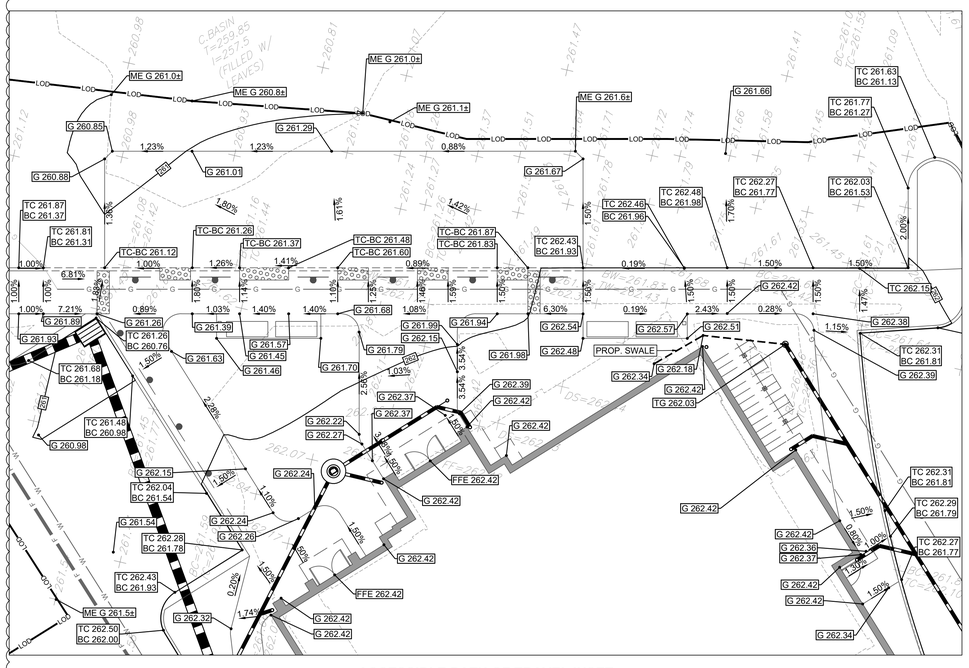
VEHICULAR ACCESS PLAN

C5.3

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GRADING NOTES:

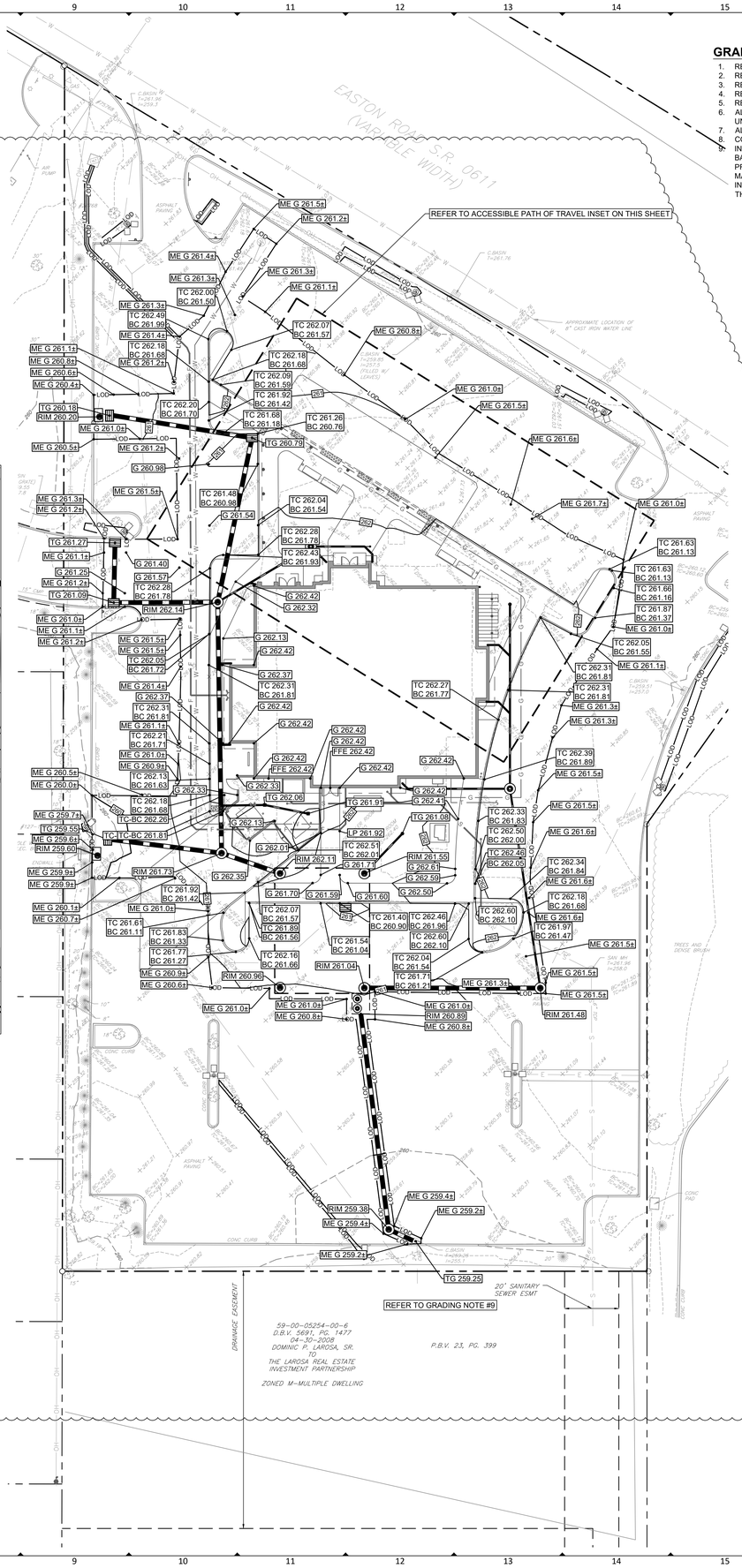
1. REFER TO SHEET C2.1 FOR GENERAL CONSTRUCTION NOTES.
2. REFER TO SHEET C4.1 FOR EXISTING CONDITIONS PLAN.
3. REFER TO SHEET C5.1 FOR CIVIL SITE PLAN / DIMENSIONAL CONTROL PLAN.
4. REFER TO SHEET C7.1 FOR UTILITY PLAN.
5. REFER TO SHEET LP-1 FOR LANDSCAPE PLAN.
6. ALL DIMENSIONS ARE TO GROUND LEVEL IMPROVEMENTS (FACE OF CURB, CONCRETE SLAB, ETC.) UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL PLANS FOR BUILDING DETAILS.
7. ALL DIMENSIONS FROM PROPERTY LINES ARE PERPENDICULAR UNLESS OTHERWISE NOTED.
8. CONTRACTOR TO SEED ALL DISTURBED AREA UNLESS NOTED OTHERWISE.
9. IN THE EXISTING CONDITIONS OF THE SITE, THE RUNOFF IS CAPTURED VIA VARIOUS CATCH BASINS AND PIPED TO AN EXISTING STORMWATER MANAGEMENT BASIN ON THE ADJACENT PROPERTY TO THE SOUTHWEST. IN PROPOSED CONDITIONS, THE DRAINAGE PATTERN IS MAINTAINED EXCEPT FOR A PROPOSED SUBSURFACE DETENTION / INFILTRATION BMP THAT INTERCEPTS/MANAGES THE RUNOFF PRIOR TO BEING DISCHARGED TO THE EXISTING BASIN ON THE ADJACENT PROPERTY TO THE SOUTHWEST.



ACCESSIBLE PATH OF TRAVEL INSET

SCALE: 1"=10'

GRAPHIC SCALE
10 5 2.5 0 10
1" = 10'



GRADING LEGEND

- EXISTING PROPERTY BOUNDARY LINE
- EXISTING ADJOINING PROPERTY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CONCRETE
- EXISTING PAVEMENT MARKING
- EXISTING CURB
- EXISTING FENCE
- EXISTING VEGETATION
- EXISTING SIGNAGE
- EXISTING BOLLARD
- EXISTING 5' INTERVAL CONTOUR LINE
- EXISTING 1' INTERVAL CONTOUR LINE
- EXISTING WATER LINE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD WIRES
- EXISTING SANITARY
- EXISTING STORM
- EXISTING UTILITY VAULT
- EXISTING UTILITY POLE
- EXISTING STORM STRUCTURES
- EXISTING SANITARY STRUCTURES
- EXISTING WATER STRUCTURES
- EXISTING GAS VALVE
- EXISTING ELECTRIC STRUCTURE
- EXISTING LIGHT POLE
- PROPOSED CURB
- PROPOSED FLUSH CURB
- PROPOSED BUILDING
- PROPOSED EDGE OF PAVEMENT
- PROPOSED CONCRETE
- PROPOSED PARKING STRIPING
- PROPOSED SIGN
- PROPOSED DETECTABLE WARNING SURFACE
- PROPOSED STORM STRUCTURE
- PROPOSED SANITARY STRUCTURE
- PROPOSED ASPHALT
- PROPOSED LIGHT FIXTURES
- PROPOSED WATER PIPE
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED SANITARY PIPE
- PROPOSED STORM PIPE
- PROPOSED GAS PIPE
- PROPOSED 5' INTERVAL CONTOUR LINE
- PROPOSED 1' INTERVAL CONTOUR LINE
- PROPOSED SPOT SHOTS
- PROPOSED LIMIT OF DISTURBANCE
- PROPOSED UNDERGROUND DETENTION / INFILTRATION BASIN

GRAPHIC SCALE
20 10 5 0 20
1" = 20'

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Olive Garden ITALIAN KITCHEN

ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA — REGISTERED ENGINEER — BRIAN L. SEARCY — PROFESSIONAL ENGINEER

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

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WILLOW GROVE, PA 19090

AUTHORIZED FOR:
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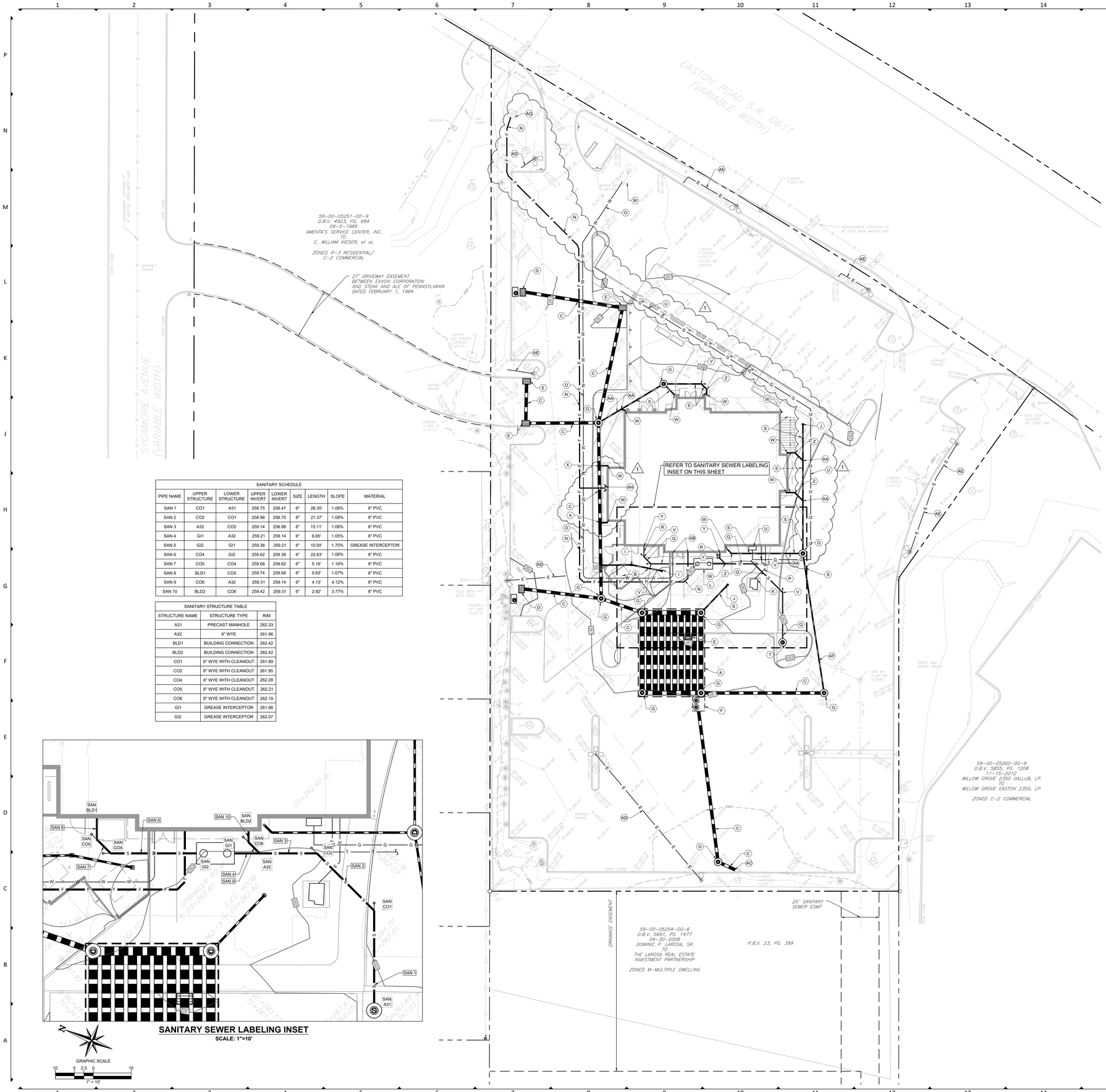
WILLOW GROVE, PA

Drawing

OVERALL GRADING AND DRAINAGE PLAN

C6.1

User: CLANG Plot Date/Time: Aug. 18, 22 - 15:14:09 Drawing: C:\Users\clang\appdata\local\temp\AcPublish_15608\DAR.33982-P-SITE.dwg, C6.1 - GRAD



SANITARY SCHEDULE								
PIPE NAME	UPPER STRUCTURE	LOWER STRUCTURE	UPPER INVERT	LOWER INVERT	SIZE	LENGTH	SLOPE	MATERIAL
SAN 1	CO1	A31	258.75	258.47	6"	26.35'	1.06%	6" PVC
SAN 2	CO2	CO1	258.98	258.75	6"	21.37'	1.08%	6" PVC
SAN 3	A32	CO2	259.14	258.98	6"	15.11'	1.06%	6" PVC
SAN 4	GI1	A32	259.21	259.14	6"	6.65'	1.05%	6" PVC
SAN 5	GI2	GI1	259.38	259.21	6"	10.00'	1.70%	GREASE INTERCEPTOR
SAN 6	CO4	GI2	259.62	259.38	6"	22.63'	1.06%	6" PVC
SAN 7	CO5	CO4	259.68	259.62	6"	5.16'	1.16%	6" PVC
SAN 8	BLD1	CO5	259.74	259.68	6"	5.63'	1.07%	6" PVC
SAN 9	CO6	A32	259.31	259.14	6"	4.13'	4.12%	6" PVC
SAN 10	BLD2	CO6	259.42	259.31	6"	2.92'	3.77%	6" PVC

SANITARY STRUCTURE TABLE		
STRUCTURE NAME	STRUCTURE TYPE	RIM
A31	PRECAST MANHOLE	262.33
A32	6" WYE	261.96
BLD1	BUILDING CONNECTION	262.42
BLD2	BUILDING CONNECTION	262.42
CO1	6" WYE WITH CLEANOUT	261.89
CO2	6" WYE WITH CLEANOUT	261.95
CO4	6" WYE WITH CLEANOUT	262.28
CO5	6" WYE WITH CLEANOUT	262.21
CO6	6" WYE WITH CLEANOUT	262.19
GI1	GREASE INTERCEPTOR	261.96
GI2	GREASE INTERCEPTOR	262.07

SANITARY SEWER LABELING INSET

SCALE: 1"=10'

GRAPHIC SCALE
10 5 2.5 0 10
1" = 10'

UTILITY NOTES:

1. REFER TO SHEET C2.1 FOR GENERAL CONSTRUCTION NOTES.
2. REFER TO SHEET C4.1 FOR EXISTING CONDITIONS PLAN.
3. REFER TO SHEET C5.1 FOR CIVIL SITE PLAN / DIMENSIONAL CONTROL PLAN.
4. REFER TO SHEET C6.1 FOR OVERALL GRADING AND DRAINAGE PLAN.
5. REFER TO SHEET LP-1 FOR LANDSCAPE PLAN.
6. ALL DIMENSIONS ARE TO GROUND LEVEL IMPROVEMENTS (FACE OF CURB, CONCRETE SLAB, ETC.) UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL PLANS FOR BUILDING DETAILS.
7. ALL DIMENSIONS FROM PROPERTY LINES ARE PERPENDICULAR UNLESS OTHERWISE NOTED.
8. CONTRACTOR TO SEED ALL DISTURBED AREA UNLESS NOTED OTHERWISE.
9. CONTRACTOR TO REFER TO SHEET C7.4 FOR STORM SEWER SCHEDULES, STRUCTURE INFORMATION, AND LABELING.

UTILITY KEY NOTES:

A. PROPOSED SUBSURFACE DETENTION / INFILTRATION BASIN. REFER TO DETAIL ON SHEET C8.2.
B. PROPOSED 6" SCH 40 PVC STORM PIPE.
C. PROPOSED 18" HDPE STORM PIPE.
D. PROPOSED PRECAST TYPE M INLET. REFER TO DETAIL ON SHEET C8.2.
E. PROPOSED PRECAST TYPE C INLET. REFER TO DETAIL ON SHEET C8.2.
F. PROPOSED OUTFALL CONTROL STRUCTURE. REFER TO DETAIL ON SHEET C8.2.
G. PROPOSED PRECAST STORM MANHOLE. REFER TO DETAIL ON SHEET C8.2.
H. PROPOSED PENNDOT STANDARD INLET CONVERSION LID. REFER TO DETAIL ON SHEET C8.2.
I. PROPOSED 12" NYLOPLAST YARD DRAIN WITH STANDARD GRATED LID. REFER TO DETAIL ON SHEET C8.3.
J. PROPOSED 12" NYLOPLAST YARD DRAIN WITH DOMED GRATED LID. REFER TO DETAIL ON SHEET C8.3.
K. PROPOSED RELOCATED TRANSFORMER WITH 7 FT X 7 FT CONCRETE PAD. CONTRACTOR TO COORDINATE WITH PUBLIC ELECTRIC SERVICE COMPANY.
L. PROPOSED GREASE INTERCEPTOR. REFER TO DETAIL ON SHEET C8.1.
M. EXISTING PRECAST WATER METER PIT FOR LOW PRESSURE DOMESTIC WATER TO BE REUSED. DURING A SITE VISIT ON 05/04/2022 WITH AN AQUA PA INSPECTOR, THE PIT CAN BE REUSED FOR THE PROPOSED DOMESTIC SERVICE. THERE WAS VISUAL CORROSION ON PIPES. PIPING IN PIT TO BE REPLACED. CONTRACTOR TO COORDINATE WITH AQUA PA DURING CONSTRUCTION REGARDING PIPE REPLACEMENT. (1)
N. PROPOSED 6" DIP FIRE SERVICE LINE. TO BE APPROVED BY AQUA PA. CONTRACTOR TO PROVIDE THRUST BLOCK IN ACCORDANCE WITH AQUA PA STANDARDS AT ALL BENDS.
O. PROPOSED 2" COPPER WATER LINE. TO BE APPROVED BY AQUA PA.
P. PROPOSED ELECTRICAL CONDUIT. CONTRACTOR TO COORDINATE WITH PUBLIC ELECTRIC SERVICE COMPANY FOR INSTALLATION.EXISTING CONDUITS FROM RELOCATED TRANSFORMER TO BE REUSED. CONTRACTOR TO FIELD VERIFY LOCATION.
Q. PROPOSED 6" SCH. 40 PVC SANITARY SEWER PIPE.
R. PROPOSED 6" SCH. 40 PVC SANITARY SEWER PIPE CONNECTION TO BUILDING.
S. PROPOSED 6" SCH. 40 PVC ROOF DRAIN PIPE. (1)
T. PROPOSED SANITARY DOGHOUSE MANHOLE. REFER TO DETAIL ON SHEET C8.3.
U. PROPOSED GAS METER AND ASSOCIATED GAS LINE. GAS LINE TO BE APPROVED BY THE PUBLIC GAS SERVICE COMPANY. CONTRACTOR TO FIELD VERIFY EXISTING GAS LINE LOCATION PRIOR TO CONSTRUCTION.
V. PROPOSED 6" SCH. 40 WYE CONNECTION WITH CLEANOUT. REFER TO SHEET C8.1 FOR CLEANOUT DETAIL.
W. PROPOSED DOWNSPOUT BOOT. REFER TO ARCHITECTURAL DRAWINGS FOR DETAIL. CONTRACTOR TO ENSURE SLOPES SHOWN IN STORM SEWER SCHEDULE ON SHEET C7.4.
X. PROPOSED INSERTA TEE CONNECTION. REFER TO SHEET C8.2 FOR DETAIL.
Y. PROPOSED 6" SANITARY BUILDING CONNECTION. CONTRACTOR TO REFER TO BUILDING PLANS.
Z. PROPOSED 6" SCH. 40 45 ELBOW FITTING.
AA. PROPOSED 6" SCH. 40 WYE CONNECTION.
AB. PROPOSED 6" WATER AND FIRE BUILDING CONNECTION. CONTRACTOR TO REFER TO BUILDING PLANS.
AC. PROPOSED STORM SEWER OUTFALL CONNECTION TO EXISTING INLET. CONTRACTOR TO CORE DRILL INTO EXISTING STRUCTURE.
AD. PROPOSED ELECTRICAL CONDUIT FOR PROPOSED LIGHT POLES. REFER TO DETAIL ON SHEET C8.1.
AE. PROPOSED ELECTRICAL CONDUIT FOR PROPOSED LIGHT POLES. POWER TO BE TAKEN FROM DEMOLISHED LIGHT POLE LOCATIONS. REFER TO DETAIL ON SHEET C8.1.
AF. PROPOSED CONCRETE ENCASEMENT SURROUNDING PROPOSED STORM SEWER. REFER TO SHEET C7.2 FOR LOCATION IN A PROFILE VIEW.
AG. EXISTING PRECAST WATER METER PIT FOR FIRE SERVICE TO BE REUSED. DURING A SITE VISIT ON 05/04/2022 WITH AN AQUA PA INSPECTOR, THE PIT CAN BE REUSED FOR THE PROPOSED FIRE SERVICE. THERE WAS VISUAL CORROSION ON PIPES. PIPING IN PIT TO BE REPLACED. CONTRACTOR TO COORDINATE WITH AQUA PA DURING CONSTRUCTION REGARDING PIPE REPLACEMENT. (1)
AH. PROPOSED FIRE DEPARTMENT CONNECTION.

UTILITY LEGEND

- EXISTING PROPERTY BOUNDARY LINE
- EXISTING ADJOINING PROPERTY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CONCRETE
- EXISTING PAVEMENT MARKING
- EXISTING CURB
- EXISTING FENCE
- EXISTING VEGETATION
- EXISTING SIGNAGE
- EXISTING BOLLARD
- EXISTING 5' INTERVAL CONTOUR LINE
- EXISTING 1' INTERVAL CONTOUR LINE
- EXISTING WATER LINE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD WIRES
- EXISTING SANITARY
- EXISTING STORM
- EXISTING UTILITY VAULT
- EXISTING UTILITY POLE
- EXISTING STORM STRUCTURES
- EXISTING SANITARY STRUCTURES
- EXISTING WATER STRUCTURES
- EXISTING GAS VALVE
- EXISTING ELECTRIC STRUCTURE
- EXISTING LIGHT POLE
- PROPOSED CURB
- PROPOSED FLUSH CURB
- PROPOSED BUILDING
- PROPOSED EDGE OF PAVEMENT
- PROPOSED CONCRETE
- PROPOSED PARKING STRIPING
- PROPOSED SIGN
- PROPOSED DETECTABLE WARNING SURFACE
- PROPOSED STORM STRUCTURE
- PROPOSED SANITARY STRUCTURE
- PROPOSED ASPHALT
- PROPOSED LIGHT FIXTURES
- PROPOSED WATER PIPE
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED SANITARY PIPE
- PROPOSED STORM PIPE
- PROPOSED GAS PIPE
- PROPOSED UNDERGROUND DETENTION / INFILTRATION BASIN

GRAPHIC SCALE
20 10 5 0 20
1" = 20'

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

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT IS IS HIS/HER RESPONSIBILITY TO CONTACT ALL UTILITIES PRIOR TO EXCAVATION. THE LOCATION OF UTILITIES SHOWN ON THESE DRAWINGS, RECORDED BY THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

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Olive Garden ITALIAN KITCHEN

ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED ENGINEER
BRIAN L. SEARCY
ENGINEER
PE083256

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date:	04.27.2022
REVISION INFORMATION	
(1) 08-18-2022 AGENCY REVISIONS	

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD
WILLOW GROVE, PA 19090

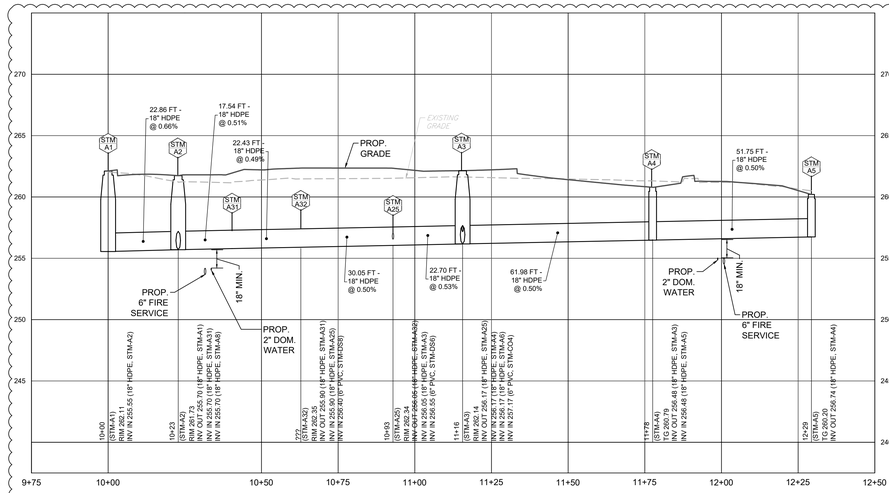
AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

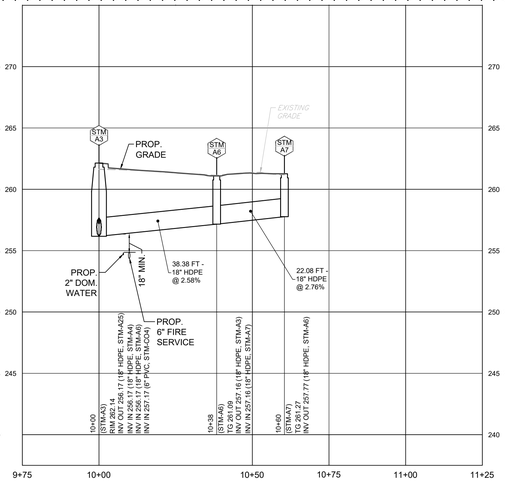
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UTILITY PLAN

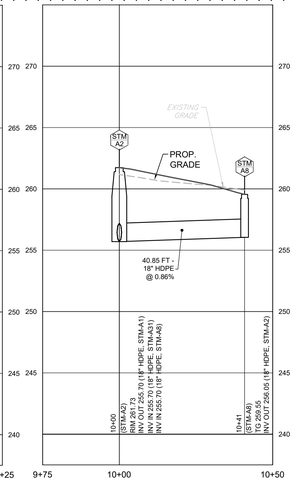
C7.1



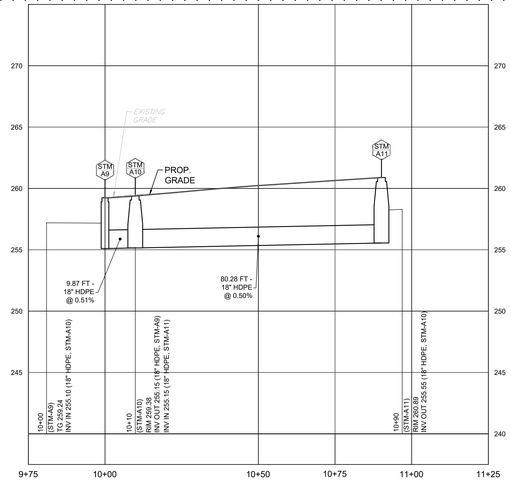
A5 TO A1 PROFILE



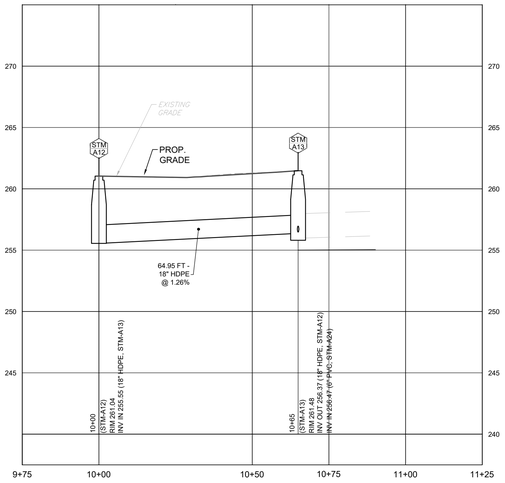
A7 to A3 PROFILE



A8 TO A2 PROFILE

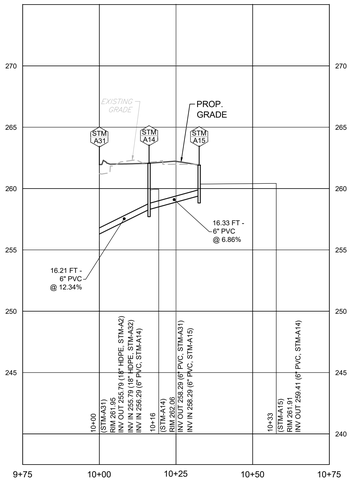


A11 TO A9 PROFILE



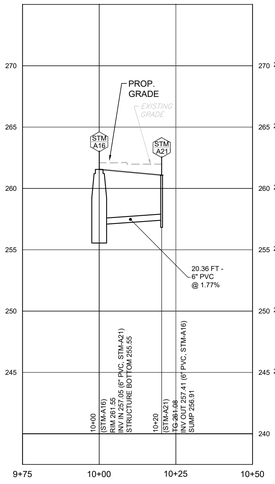
A13 TO A12 PROFILE

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'



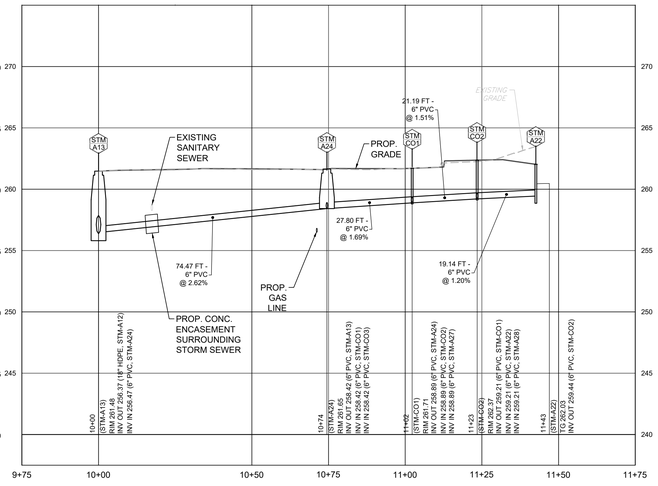
A15 TO A31 PROFILE

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'



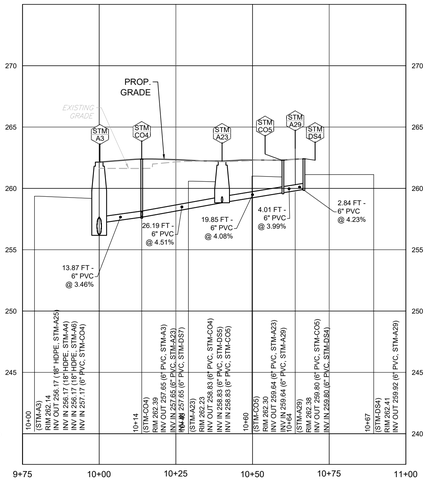
A21 TO A16

SCALE
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HORIZONTAL 1" = 20'



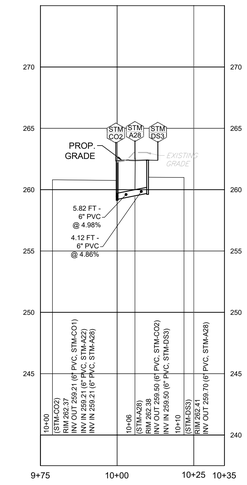
A22 TO A13

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'



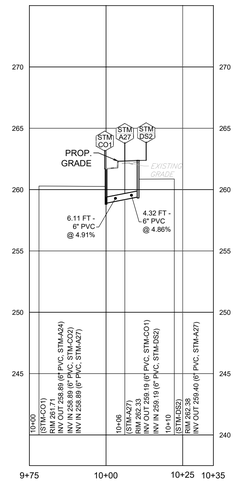
DS4 TO A3 PROFILE

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'



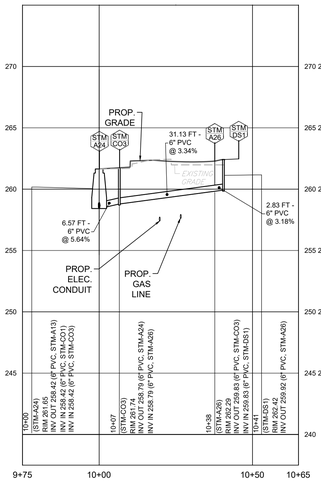
DS3 TO CO2 PROFILE

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'



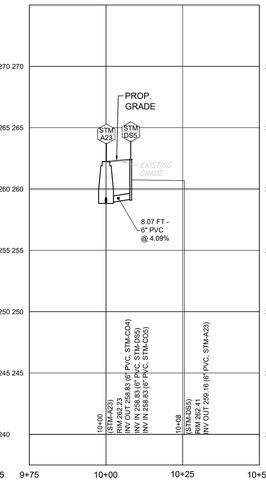
DS2 TO CO1 PROFILE

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'



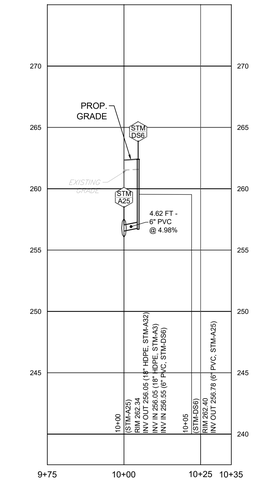
DS1 TO A24 PROFILE

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'



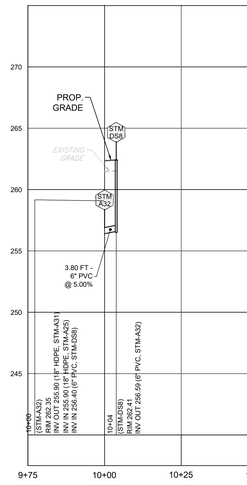
DS5 TO A23 PROFILE

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'



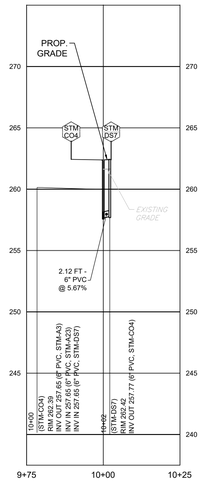
DS6 TO A25 PROFILE

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'



DS8 TO A32 PROFILE

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'



DS7 TO CO4 PROFILE

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'

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Olive Garden ITALIAN KITCHEN

ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA REGISTERED ENGINEER BRIAN L. SEARCY PROFESSIONAL ENGINEER

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION

1 08-18-2022 AGENCY REVISIONS

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD
WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing

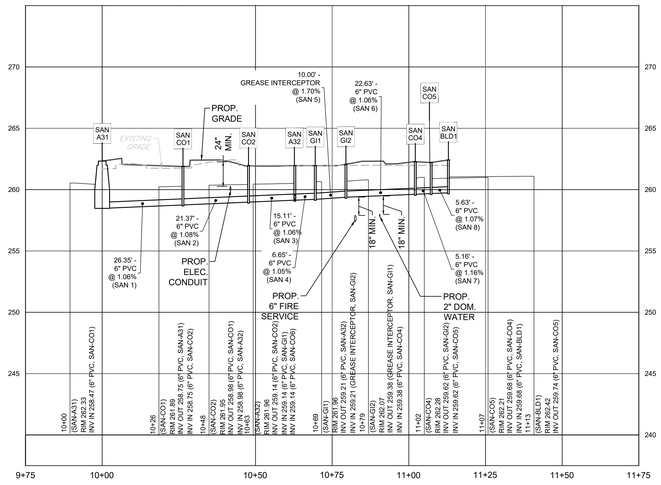
STORM SEWER PROFILES

C7.2

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

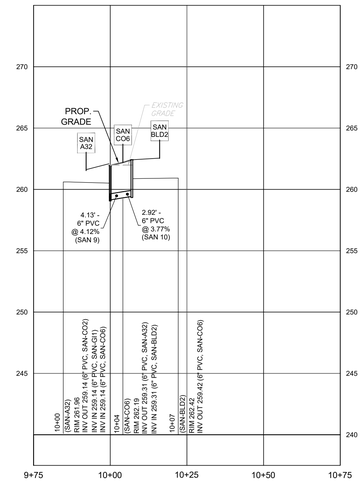
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND/OR STRUCTURES AS SHOWN ON THIS DRAWING, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER APPROACH UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

User: CLANG Plot Date/Time: Aug. 18, 22 - 15:14:55 Drawing: C:\Users\clang\appdata\local\temp\AcPublish_15608\DAR.33982-P-PROF.dwg ,C7.2 - STM PROF



BLD1 TO A31 PROFILE

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'



BLD2 TO A32 PROFILE

SCALE
VERTICAL 1" = 5'
HORIZONTAL 1" = 20'

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

THE CONTRACTOR IS SPECIFICALLY CAUTIONED TO VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS BY MAKING ON-SOCH DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, BY EXCAVATING AHEAD OF THE WORK. NO GUARANTEE IS MADE AS TO THE COMPLETENESS OR THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

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Olive Garden ITALIAN KITCHEN

ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA REGISTERED ENGINEER BRIAN L. SEARCY PROFESSIONAL ENGINEER

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

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WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

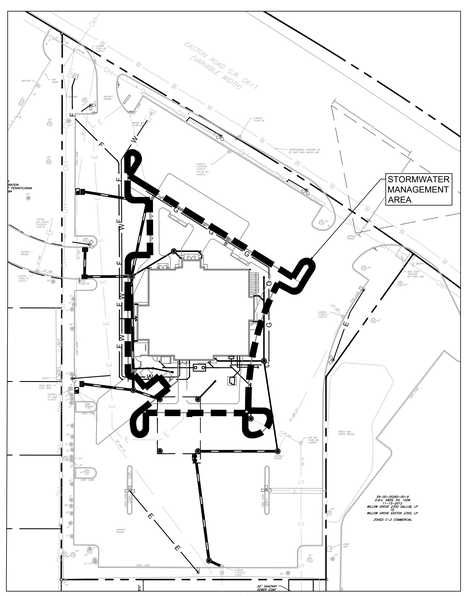
WILLOW GROVE, PA

Drawing

SANITARY SEWER PROFILES

C7.3

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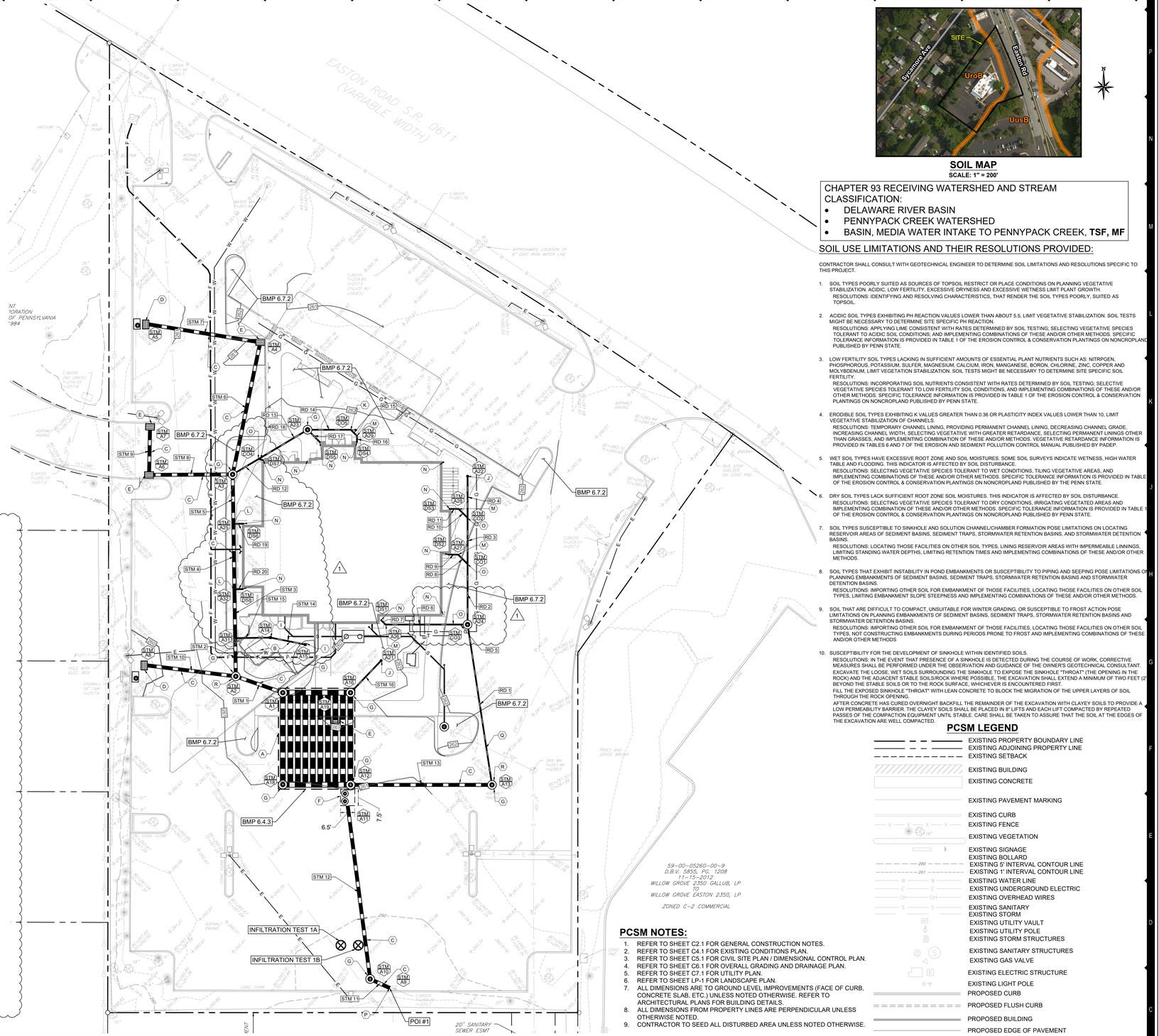
STORMWATER MANAGEMENT AREA INSET

SCALE: 1"=50'

GRAPHIC SCALE

50 25 12.5 0 50

1" = 50'



SOIL MAP

SCALE: 1" = 200'

CHAPTER 93 RECEIVING WATERSHED AND STREAM CLASSIFICATION:

- DELAWARE RIVER BASIN
- PENNYPACK CREEK WATERSHED
- BASIN, MEDIA WATER INTAKE TO PENNYPACK CREEK, **TSF, MF**

SOIL USE LIMITATIONS AND THEIR RESOLUTIONS PROVIDED:

CONTRACTOR SHALL CONSULT WITH GEOTECHNICAL ENGINEER TO DETERMINE SOIL LIMITATIONS AND RESOLUTIONS SPECIFIC TO THIS PROJECT.

1. SOIL TYPES POORLY SUITED AS SOURCES OF TOPSOIL RESTRICT OR PLACE CONDITIONS ON PLANNING VEGETATIVE STABILIZATION. ACIDIC, LOW FERTILITY, EXCESSIVE DRYNESS AND EXCESSIVE WETNESS LIMIT PLANT GROWTH.
   RESOLUTIONS: IDENTIFYING AND RESOLVING CHARACTERISTICS, THAT RENDER THE SOIL TYPES POORLY, SUITED AS TOPSOIL.
2. ACIDIC SOIL TYPES EXHIBITING PH REACTION VALUES LOWER THAN ABOUT 5.5, LIMIT VEGETATIVE STABILIZATION. SOIL TESTS MIGHT BE NECESSARY TO DETERMINE SITE SPECIFIC PH REACTION.
   RESOLUTIONS: APPLYING LIME CONSISTENT WITH RATES DETERMINED BY SOIL TESTING; SELECTING VEGETATIVE SPECIES TOLERANT TO ACIDIC SOIL CONDITIONS; AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
3. LOW FERTILITY SOIL TYPES LACKING IN SUFFICIENT AMOUNTS OF ESSENTIAL PLANT NUTRIENTS SUCH AS; NITRPGEN, PHOSPHORUS, POTASSIUM, SULFER, MAGNESIUM, CALCIUM, IRON, MANGANESE, BORON, CHLORINE, ZINC, COPPER AND MOLYBDENUM, LIMIT VEGETATION STABILIZATION. SOIL TESTS MIGHT BE NECESSARY TO DETERMINE SITE SPECIFIC SOIL FERTILITY.
   RESOLUTIONS: INCORPORATING SOIL NUTRIENTS CONSISTENT WITH RATES DETERMINED BY SOIL TESTING; SELECTIVE VEGETATIVE SPECIES TOLERANT TO LOW FERTILITY SOIL CONDITIONS, AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
4. ERODIBLE SOIL TYPES EXHIBITING K VALUES GREATER THAN 0.36 OR PLASTICITY INDEX VALUES LOWER THAN 10, LIMIT VEGETATIVE STABILIZATION OF CHANNELS.
   RESOLUTIONS: TEMPORARY CHANNEL LINING, PROVIDING PERMANENT CHANNEL LINING, DECREASING CHANNEL GRADE, INCREASING CHANNEL WIDTH, SELECTING VEGETATIVE WITH GREATER RETARDANCE, SELECTING PERMANENT LININGS OTHER THAN GRASSES, AND IMPLEMENTING COMBINATION OF THESE AND/OR METHODS. VEGETATIVE RETARDANCE INFORMATION IS PROVIDED IN TABLES 6 AND 7 OF THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL PUBLISHED BY PADEP.
5. WET SOIL TYPES HAVE EXCESSIVE ROOT ZONE AND SOIL MOISTURES. SOME SOIL SURVEYS INDICATE WETNESS, HIGH WATER TABLE AND FLOODING. THIS INDICATOR IS AFFECTED BY SOIL DISTURBANCE.
   RESOLUTIONS: SELECTING VEGETATIVE SPECIES TOLERANT TO WET CONDITIONS, TILING VEGETATIVE AREAS, AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY THE PENN STATE.
6. DRY SOIL TYPES LACK SUFFICIENT ROOT ZONE SOIL MOISTURES. THIS INDICATOR IS AFFECTED BY SOIL DISTURBANCE.
   RESOLUTIONS: SELECTING VEGETATIVE SPECIES TOLERANT TO DRY CONDITIONS, IRRIGATING VEGETATED AREAS AND IMPLEMENTING COMBINATION OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
7. SOIL TYPES SUSCEPTIBLE TO SINKHOLE AND SOLUTION CHANNEL/CHAMBER FORMATION POSE LIMITATIONS ON LOCATING RESERVOIR AREAS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS, AND STORMWATER DETENTION BASINS.
   RESOLUTIONS: LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, LINING RESERVOIR AREAS WITH IMPERMEABLE LINNINGS, LIMITING STANDING WATER DEPTHS, LIMITING RETENTION TIMES AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS.
8. SOIL TYPES THAT EXHIBIT INSTABILITY IN POND EMBANKMENTS OR SUSCEPTIBILITY TO PIPING AND SEEPING POSE LIMITATIONS ON PLANNING EMBANKMENTS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS AND STORMWATER DETENTION BASINS.
   RESOLUTIONS: IMPORTING OTHER SOIL FOR EMBANKMENT OF THOSE FACILITIES, LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, LIMITING EMBANKMENT SLOPE STEEPNESS AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS.
9. SOIL THAT ARE DIFFICULT TO COMPACT, UNSUITABLE FOR WINTER GRADING, OR SUSCEPTIBLE TO FROST ACTION POSE LIMITATIONS ON PLANNING EMBANKMENTS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS AND STORMWATER DETENTION BASINS.
   RESOLUTIONS: IMPORTING OTHER SOIL FOR EMBANKMENT OF THOSE FACILITIES, LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, NOT CONSTRUCTING EMBANKMENTS DURING PERIODS PRONE TO FROST AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS
10. SUSCEPTIBILITY FOR THE DEVELOPMENT OF SINKHOLE WITHIN IDENTIFIED SOILS.
    RESOLUTIONS: IN THE EVENT THAT PRESENCE OF A SINKHOLE IS DETECTED DURING THE COURSE OF WORK, CORRECTIVE MEASURES SHALL BE PERFORMED UNDER THE OBSERVATION AND GUIDANCE OF THE OWNER'S GEOTECHNICAL CONSULTANT.
    EXCAVATE THE LOOSE, WET SOILS SURROUNDING THE SINKHOLE TO EXPOSE THE SINKHOLE "THROAT" (THE OPENING IN THE ROCK) AND THE ADJACENT STABLE SOILS/ROCK WHERE POSSIBLE, THE EXCAVATION SHALL EXTEND A MINIMUM OF TWO FEET (2') BEYOND THE STABLE SOILS OR TO THE ROCK SURFACE, WHICHEVER IS ENCOUNTERED FIRST.
    FILL THE EXPOSED SINKHOLE "THROAT" WITH LEAN CONCRETE TO BLOCK THE MIGRATION OF THE UPPER LAYERS OF SOIL THROUGH THE ROCK OPENING.
    AFTER CONCRETE HAS CURED OVERNIGHT BACKFILL THE REMAINDER OF THE EXCAVATION WITH CLAYEY SOILS TO PROVIDE A LOW PERMEABILITY BARRIER. THE CLAYEY SOILS SHALL BE PLACED IN 8" LIFTS AND EACH LIFT COMPACTED BY REPEATED PASSES OF THE COMPACTION EQUIPMENT UNTIL STABLE. CARE SHALL BE TAKEN TO ASSURE THAT THE SOIL AT THE EDGES OF THE EXCAVATION ARE WELL COMPACTED.

PCSM LEGEND

- EXISTING PROPERTY BOUNDARY LINE
- EXISTING ADJOINING PROPERTY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CONCRETE
- EXISTING PAVEMENT MARKING
- EXISTING CURB
- EXISTING FENCE
- EXISTING VEGETATION
- EXISTING SIGNAGE
- EXISTING BOLLARD
- EXISTING 5' INTERVAL CONTOUR LINE
- EXISTING 1' INTERVAL CONTOUR LINE
- EXISTING WATER LINE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD WIRES
- EXISTING SANITARY
- EXISTING STORM
- EXISTING UTILITY VAULT
- EXISTING UTILITY POLE
- EXISTING STORM STRUCTURES
- EXISTING SANITARY STRUCTURES
- EXISTING GAS VALVE
- EXISTING ELECTRIC STRUCTURE
- EXISTING LIGHT POLE
- PROPOSED CURB
- PROPOSED FLUSH CURB
- PROPOSED BUILDING
- PROPOSED EDGE OF PAVEMENT
- PROPOSED CONCRETE
- PROPOSED PARKING STRIPING
- PROPOSED SIGN
- PROPOSED DETECTABLE WARNING SURFACE
- PROPOSED STORM STRUCTURE
- PROPOSED SANITARY STRUCTURE
- PROPOSED ASPHALT
- PROPOSED LIGHT FIXTURES
- PROPOSED WATER PIPE
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED SANITARY PIPE
- PROPOSED STORM PIPE
- PROPOSED GAS PIPE
- PROPOSED UNDERGROUND DETENTION / INFILTRATION BASIN

GRAPHIC SCALE

20 10 5 0 20

1" = 20'

PCSM NOTES:

1. REFER TO SHEET C2.1 FOR GENERAL CONSTRUCTION NOTES.
2. REFER TO SHEET C4.1 FOR EXISTING CONDITIONS PLAN.
3. REFER TO SHEET C5.1 FOR CIVIL SITE PLAN / DIMENSIONAL CONTROL PLAN.
4. REFER TO SHEET C6.1 FOR OVERALL GRADING AND DRAINAGE PLAN.
5. REFER TO SHEET C7.1 FOR UTILITY PLAN.
6. REFER TO SHEET LP-1 FOR LANDSCAPE PLAN.
7. ALL DIMENSIONS ARE TO GROUND LEVEL IMPROVEMENTS (FACE OF CURB, CONCRETE SLAB, ETC.) UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL PLANS FOR BUILDING DETAILS.
8. ALL DIMENSIONS FROM PROPERTY LINES ARE PERPENDICULAR UNLESS OTHERWISE NOTED.
9. CONTRACTOR TO SEED ALL DISTURBED AREA UNLESS NOTED OTHERWISE.

PCSM KEY NOTES:

A. PROPOSED SUBSURFACE DETENTION / INFILTRATION BASIN. REFER TO DETAIL ON SHEET C8.2.
B. PROPOSED 6" SCH 40 PVC ROOF DRAIN PIPE.
C. PROPOSED 18" HDPE STORM PIPE.
D. PROPOSED PRECAST TYPE M INLET. REFER TO DETAIL ON SHEET C8.2.
E. PROPOSED PRECAST TYPE C INLET. REFER TO DETAIL ON SHEET C8.2.
F. PROPOSED OUTFALL CONTROL STRUCTURE. REFER TO DETAIL ON SHEET C8.2.
G. PROPOSED PRECAST STORM MANHOLE. REFER TO DETAIL ON SHEET C8.2.
H. PROPOSED PENNDOT STANDARD INLET CONVERSION LID. REFER TO DETAIL ON SHEET C8.2.
I. PROPOSED 12" NYLOPLAST YARD DRAIN WITH STANDARD GRATED LID. REFER TO DETAIL ON SHEET C8.3.
J. PROPOSED 12" NYLOPLAST YARD DRAIN WITH DOMED GRATED LID. REFER TO DETAIL ON SHEET C8.3.
K. PROPOSED 6" SCH. 40 WYE CONNECTION WITH CLEANOUT. REFER TO SHEET C8.1 FOR CLEANOUT DETAIL.
L. PROPOSED INSERTA TEE CONNECTION. REFER TO SHEET C8.2 FOR DETAIL.
M. PROPOSED 6" 45 ELBOW FITTING.
N. PROPOSED DOWNSPOUT BOOT. REFER TO ARCHITECTURAL DRAWINGS FOR DETAIL. CONTRACTOR TO ENSURE SLOPES SHOWN IN STORM SEWER SCHEDULE ON THIS SHEET.
O. PROPOSED 6" SCH. 40 PVC WYE CONNECTION.
P. PROPOSED STORM SEWER OUTFALL CONNECTION TO EXISTING INLET. CONTRACTOR TO CORE DRILL INTO EXISTING STRUCTURE.
Q. PROPOSED CONCRETE ENCASEMENT SURROUNDING PROPOSED STORM SEWER. REFER TO SHEET C7.2 FOR LOCATION IN A PROFILE VIEW.
R. PROPOSED STORM STRUCTURE A2 & A13 TO HAVE WATER QUALITY INSERTS. REFER TO SHEET C8.2 FOR DETAIL.

Know what's below. Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN PLANS AND/OR FIELD SURVEYS AND MAY NOT REFLECT ACTUAL CONDITIONS OR MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. IT IS THE CONTRACTOR'S APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

STORM STRUCTURE TABLE		
STRUCTURE NAME	STRUCTURE TYPE	RIM
A1	PRECAST MANHOLE	262.11
A2	PRECAST MANHOLE	261.73
A3	PRECAST MANHOLE	262.14
A4	PRECAST TYPE C INLET	260.79
A5	PRECAST TYPE M INLET	260.20
A6	PRECAST TYPE C INLET	261.09
A7	PRECAST TYPE C INLET	261.27
A8	PRECAST TYPE M INLET	259.55
A9	EXISTING INLET	259.24
A10	PRECAST MANHOLE	259.38
A11	OUTFALL CONTROL STRUCTURE	260.89
A12	PRECAST MANHOLE	261.04
A13	PRECAST MANHOLE	261.48
A14	12" NYLOPLAST YARD DRAIN	262.06
A15	12" NYLOPLAST YARD DRAIN	261.91
A16	PRECAST MANHOLE	261.55
A18	PRECAST MANHOLE	260.96
A19	PRECAST TYPE C INLET	260.93
A21	12" NYLOPLAST YARD DRAIN	261.08
A22	12" NYLOPLAST YARD DRAIN	262.03
A23	PRECAST MANHOLE	262.23
A24	PRECAST MANHOLE	261.65
A25	PROPOSED INSERTA TEE	262.34
A26	6" 45 ELBOW	262.29
A27	6" 45 ELBOW	262.33
A28	6" 45 ELBOW	262.38
A29	6" 45 ELBOW	262.38
A31	PROPOSED INSERTA TEE	261.95
A32	PROPOSED INSERTA TEE	262.35
CO1	6" WYE	261.71
CO2	6" WYE	262.37
CO3	6" WYE	261.74
CO4	6" WYE	262.39
CO5	6" WYE WITH CLEANOUT	262.30
DS1	DOWNSPOUT BOOT	262.42
DS2	DOWNSPOUT BOOT	262.38
DS3	DOWNSPOUT BOOT	262.41
DS4	DOWNSPOUT BOOT	262.41
DS5	DOWNSPOUT BOOT	262.41
DS6	DOWNSPOUT BOOT	262.40
DS7	DOWNSPOUT BOOT	262.42
DS8	DOWNSPOUT BOOT	262.41

STORM SEWER SCHEDULE								
PIPE NAME	UPPER STRUCTURE	LOWER STRUCTURE	UPPER INVERT	LOWER INVERT	SIZE	LENGTH	SLOPE	MATERIAL
RD 1	A24	A13	258.42'	256.47'	6"	74.47	2.62%	6" PVC
RD 2	CO1	A24	258.89'	258.42'	6"	27.80	1.69%	6" PVC
RD 3	CO2	CO1	259.21'	258.89'	6"	21.19	1.51%	6" PVC
RD 4	A22	CO2	259.44'	259.21'	6"	19.14	1.20%	6" PVC
RD 5	CO3	A24	258.79'	258.42'	6"	6.57	5.64%	6" PVC
RD 6	A26	CO3	259.83'	258.79'	6"	31.13	3.34%	6" PVC
RD 7	DS1	A26	259.92'	259.83'	6"	2.83	3.18%	6" PVC
RD 8	A27	CO1	259.19'	258.89'	6"	6.11	4.91%	6" PVC
RD 9	DS2	A27	259.40'	259.19'	6"	4.32	4.86%	6" PVC
RD 10	A28	CO2	259.50'	259.21'	6"	5.82	4.98%	6" PVC
RD 11	DS3	A28	259.70'	259.50'	6"	4.12	4.86%	6" PVC
RD 12	CO4	A3	257.65'	257.17'	6"	13.87	3.46%	6" PVC
RD 13	A23	CO4	258.83'	257.65'	6"	26.19	4.51%	6" PVC
RD 14	CO5	A23	259.64'	258.83'	6"	19.85	4.08%	6" PVC
RD 15	A29	CO5	259.80'	259.64'	6"	4.01	3.99%	6" PVC
RD 16	DS4	A29	259.92'	259.80'	6"	2.84	4.23%	6" PVC
RD 17	DS5	A23	259.16'	258.83'	6"	8.07	4.09%	6" PVC
RD 18	DS7	CO4	257.77'	257.65'	6"	2.12	5.67%	6" PVC
RD 19	DS6	A25	256.78'	256.55'	6"	4.62	4.98%	6" PVC
RD 20	DS8	A32	256.59'	256.40'	6"	3.80	5.00%	6" PVC
STM 1	A2	A1	255.70'	255.55'	18"	22.86	0.66%	18" HDPE
STM 2	A31	A2	255.79'	255.70'	18"	17.54	0.51%	18" HDPE
STM 3	A32	A31	255.90'	255.79'	18"	22.43	0.49%	18" HDPE
STM 4	A25	A32	256.05'	255.90'	18"	30.05	0.50%	18" HDPE
STM 5	A3	A25	256.17'	256.05'	18"	22.70	0.53%	18" HDPE
STM 6	A4	A3	256.48'	256.17'	18"	61.98	0.50%	18" HDPE
STM 7	A5	A4	256.74'	256.48'	18"	51.75	0.50%	18" HDPE
STM 8	A6	A3	257.16'	256.17'	18"	38.38	2.58%	18" HDPE
STM 9	A7	A6	257.77'	257.16'	18"	22.08	2.76%	18" HDPE
STM 10	A8	A2	256.05'	255.70'	18"	40.85	0.86%	18" HDPE
STM 11	A10	A9	255.15'	255.10'	18"	9.87	0.51%	18" HDPE
STM 12	A11	A10	255.55'	255.15'	18"	80.28	0.50%	18" HDPE
STM 13	A13	A12	256.37'	255.55'	18"	64.95	1.26%	18" HDPE
STM 14	A15	A14	259.41'	258.29'	6"	16.33	6.86%	6" PVC
STM 15	A31	A14	256.29'	258.29'	6"	16.21	12.34%	6" PVC
STM 16	A21	A16	257.41'	257.05'	6"	20.36	1.77%	6" PVC

SOIL SUITABILITY AND CHARACTERISTICS

DESIGNATION	SOIL	HYDROLOGIC SOIL GROUP	DESCRIPTION	DEPTH FROM SURFACE OF TYPICAL PROFILE	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	HYDRIC SOIL	FROST ACTION	FOR USE AS ROAD FILL	FOR USE AS TOPSOIL	FOR USE AS GRAVEL	FOR USE AS SAND
UroB	URBAN LAND-LAWRENCEVILLE COMPLEX, 0 TO 8 PERCENT SLOPES	MAIN COMPONENT NOT LISTED LAWRENCEVILLE - C	URBAN LAND: 80 PERCENT LAWRENCEVILLE AND SIMILAR SOILS: 25 PERCENT MINOR COMPONENTS: 10 PERCENT	74 INCHES	MORE THAN 78 INCHES	10 TO 99 INCHES	RATING :5	NONE	NOT RATED	NOT RATED	NOT RATED	NOT RATED
UusB	URBAN LAND-UDORTHENTS, SHALE AND SANDSTONE COMPLEX, 0 TO 8 PERCENT SLOPES	MAIN COMPONENTNOT LISTED UDORTHENTS, SHALE AND SANDSTONE - A	URBAN LAND: 80 PERCENT UDORTHENTS, SHALE AND SANDSTONE, AND SIMILAR SOILS: 15 PERCENT MINOR COMPONENTS: 5 PERCENT	60 INCHES	MORE THAN 78 INCHES	10 TO 99 INCHES	RATING :0	NONE	NOT RATED	NOT RATED	NOT RATED	NOT RATED

SOIL TESTING RESULTS TABLE

TEST LOCATIION	INFILTRATION TEST DEPTH (IN INCHES)	INFILTRATION RATE (IN INCHES/HOUR)
1A	120	0.19
AB	120	0.21

INFILTRATION NOTES:

1. PLEASE REFER TO SOIL TESTING INVESTIGATION FOR 2402 EASTON ROAD PREPARED BY VALUE ENGINEERING INC. THE INVESTIGATION IS ATTACHED AS AN APPENDIX IN THE STORMWATER MANAGEMENT REPORT FOR 2402 EASTON ROAD.

DRAINAGE NOTES:

1. A CONFERENCE CALL WAS HELD ON APRIL 8TH, 2022 REGARDING STORMWATER DESIGN WITH DARDEN CORPORATION, CORE STATES GROUP, AND THE TOWNSHIP ENGINEER, JIM HERSH. THE DRAINAGE AREA SHOWN ON THIS PLAN, DENOTED AS STORMWATER MANAGEMENT AREA, WAS DECIDED TO BE THE AREA CONSIDERED FOR STORMWATER MANAGEMENT. ALL CALCULATIONS REGARDING VOLUME CONTROL, WATER QUALITY, AND PEAK RATE REDUCTION ARE BASED ON THIS AREA. PLEASE REFER TO THE STORMWATER MANAGEMENT AREA INSET ON THIS PLAN FOR THE AFOREMENTIONED AREA.
2. THE MAINTENANCE AND OWNERSHIP OF THE STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE LOT OWNER.
3. A BLANKET EASEMENT SHALL BE PROVIDED OVER THE SITE FOR INSPECTION BY THE TOWNSHIP. IN ADDITION, A STORMWATER MAINTENANCE AGREEMENT WILL BE PREPARED BY THE TOWNSHIP SOLICITOR AND EXECUTED PRIOR TO THE PLANS BEING RECORDED.

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DOCUMENTS PREPARED BY CORESTATES, INC., INCLUDING THIS DOCUMENT, ARE TO BE USED ONLY FOR THE SPECIFIC PROJECT AND SPECIFIC USE FOR WHICH THEY WERE INTENDED. ANY EXTENSION OF USE TO ANY OTHER PROJECTS, BY OWNER OR BY ANY OTHER PARTY, WITHOUT THE EXPRESSED WRITTEN CONSENT OF CORESTATES, INC. IS DONE UNLAWFULLY AND AT THE USERS OWN RISK. IF USED IN A WAY OTHER THAN THAT SPECIFICALLY INTENDED, USER WILL HOLD CORESTATES, INC. HARMLESS FROM ALL CLAIMS AND LOSSES.

Olive Garden ITALIAN KITCHEN

ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA REGISTERED ENGINEER BRIAN L. SEARCY ENGINEER

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION

1 08-18-2022 AGENCY REVISIONS

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD

WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing

POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN

C7.4

User: CLANG Plot Date/Time: Aug. 18, 22 - 15:16:13 Drawing: C:\Users\clang\appdata\local\temp\AcPublish_15608\DAR.33982-P-SITE.dwg,C7.4 - PCSM

P.C.S.W.M. B.M.P. INSPECTION AND MAINTENANCE NOTES

1. UNTIL THE SITE IS STABILIZED AND DURING THE CONSTRUCTION ACTIVITIES, ALL BMPS MUST BE MAINTAINED PROPERLY BY CONTRACTOR. ALL PERMANENT MAINTENANCE PROCEDURES SHALL BE PERFORMED BY THE DESIGNATED HOME OWNERS ASSOCIATION. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN-OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY AND IN ACCORDANCE WITH THESE PROCEDURES, PLANS, AND DETAILS. ANY AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS. ALL SITE INSPECTIONS MUST BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE INDICATING THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION. THE INSPECTION LOG MUST BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.
2. STORMWATER MANAGEMENT BASINS - BASINS SHALL BE INSPECTED FOR LITTER AND SEDIMENT ACCUMULATION ON AN ANNUAL BASIS OR AS DIRECTED BY THE TOWNSHIP ENGINEER. NEEDED MAINTENANCE SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. THE LITTER AND SEDIMENT MUST BE REMOVED TO RESTORE DESIGN CAPACITIES. THE LITTER AND SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED MANNER AND IN ACCORDANCE WITH APPLICABLE STATE REGULATIONS. ANY AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.
3. INLETS SHALL BE INSPECTED CLOGGING OR SEDIMENT ACCUMULATION ON AN ANNUAL BASIS, AFTER A SIGNIFICANT RUNOFF EVENT, OR AS DIRECTED BY THE UPPER MORELAND TOWNSHIP ENGINEER. NEEDED MAINTENANCE SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. AREAS OF CLOGGING OR SEDIMENTATION SHALL BE BE CLEANED / REMOVED TO RESTORE DESIGN CAPACITIES. ANY REMOVED SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED MANNER AND IN ACCORDANCE WITH APPLICABLE STATE REGULATIONS.
4. STORM DRAINAGE SYSTEMS - THE STORM WATER MANAGEMENT FACILITIES INCLUDING THE INLETS, STORM WATER PIPING, SWALES, AND BASINS ON THIS SITE SHALL BE MAINTAINED IN PROPER WORKING ORDER IN ACCORDANCE WITH THESE PLANS AND PER THE RECOMMENDATION OF THE STRUCTURE(S) MANUFACTURER(S). MAINTENANCE OF THESE STORM WATER MANAGEMENT FACILITIES, AS NOTED BELOW, SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER(S) UPON WHOSE PROPERTY THE FACILITIES ARE LOCATED.
5. ALL ON-SITE INLETS, MANHOLES, AND STORM WATER PIPING SHALL BE CLEARED OF DEBRIS EVERY THREE (3) MONTHS OR WHEN ACCUMULATION HINDERS OPERATION OF THE FACILITY.
6. ALL SEDIMENT/DEBRIS/OIL REMOVED FROM THE STORM WATER MANAGEMENT SYSTEM SHALL BE DISPOSED PER LOCAL, STATE, AND FEDERAL STANDARDS.
7. SHOULD ON-SITE EROSION OCCUR FROM THE LANDSCAPED AREAS, SOURCE OF EROSION SHALL BE IMMEDIATELY STABILIZED AND THE INLETS, MANHOLES, AND STORM WATER PIPING SHALL BE CHECKED FOR ACCUMULATION AND CLEARED IF ACCUMULATION OF SEDIMENT EXISTS.

GENERAL SEQUENCING NOTES FOR P.C.S.W.M. B.M.P.s

1.) A SITE INSPECTION AND APPROVAL BY THE UPPER MORELAND TOWNSHIP ENGINEER IS REQUIRED PRIOR TO THE REMOVAL OR CONVERSION OF SEDIMENT TRAPS.

2.) CORE STATES GROUP SHALL BE NOTIFIED OF PRE-CONSTRUCTION MEETING DATE AND BMP CONSTRUCTION SCHEDULE.

3.) THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO LIMIT THE COMPACTION IN THE PROPOSED B.M.P. BOTTOMS.

4.) REFER TO THE BMP CONSTRUCTION DETAILS FOR THE CONSTRUCTION OF ALL PROPOSED STORMWATER MANAGEMENT WATER QUALITY BMP'S.

5.) REFER TO THE PCSWM PLAN AND DETAILS FOR SPECIFIC BMP CONSTRUCTION GUIDELINES.

67.) AS-BUILT PLANS OF THE STORMWATER BMPs FOR EACH PROJECT PHASE SHALL BE PROVIDED WITHIN SIX MONTHS FOLLOWING THE COMPLETION OF EACH PHASE. THE AS-BUILT PLANS SHALL BE SIGNED AND SEALED BY A PA REGISTERED PROFESSIONAL ENGINEER.

8.) A NOTICE OF TERMINATION (NOT) WILL BE REQUIRED TO BE SUBMITTED FOLLOWING APPROVAL OF THE FINAL AS-BUILT PLANS. PRIOR TO ACCEPTING THE NOT, THE TOWNSHIP STAFF WILL PERFORM A FINAL INSPECTION TO ENSURE SITE STABILIZATION AND VERIFY ADEQUATE INSTALLATION AND FUNCTION OF STORMWATER BMPs.

CRITICAL STAGES

LISTED BELOW ARE THE CRITICAL STAGES OF CONSTRUCTION. AN IMMEDIATE INSPECTION SHALL BE CONDUCTED BY A QUALIFIED REPRESENTATIVE, WHERE UPON THE UPPER MORELAND TOWNSHIP ENGINEER SHALL BE NOTIFIED IN WRITING.

- INSTALLATION OF SUBSURFACE DETENTION/ INFILTRATION
- INSTALLATION OF STORM SEWER AND STRUCTURES
- INSTALLATION OF NATIVE AND ADAPTIVE SPECIES FOR LANDSCAPE RESTORATION BMP

P.C.S.W.M. SUPPLEMENTAL NOTES

GENERAL PCSM PLANNING AND DESIGN §102.8(B)

1. THE FOLLOWING MEASURES WERE TAKEN TO PRESERVE THE INTEGRITY OF STREAM CHANNELS AND TO MAINTAIN AND PROTECT THE PHYSICAL, BIOLOGICAL, AND CHEMICAL QUALITIES OF THE RECEIVING STREAM:
   - DIRECT RUNOFF FROM IMPERVIOUS SURFACES INCLUDING ROADWAYS TO BMPS.
   - USE NATIVE SPECIES, WHICH REQUIRE LESS FERTILIZATION AND CHEMICAL APPLICATION THAN NON-NATIVE SPECIES.
   - MAINTAIN GENERALLY THE SAME DRAINAGE PATTERNS AS IN THE EXISTING CONDITION
   - PERFORM SOIL AMENDMENTS, WHICH RESTORE SOIL POROSITY THROUGH TILLING AND COMPOSTING TO IMPROVE THE SOIL'S CAPACITY FOR INFILTRATION AND POLLUTANT REMOVAL.
2. THE FOLLOWING MEASURES WERE TAKEN TO PREVENT AN INCREASE IN THE RATE OF STORM WATER RUNOFF:
   - MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL.
   - MAINTAIN GENERALLY THE SAME DRAINAGE PATTERNS AS IN THE EXISTING CONDITION
   - INSTALLATION OF SUBSURFACE DETENTION / INFILTRATION BASIN
3. THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE ANY INCREASE IN STORM WATER RUNOFF VOLUME:
   - INSTALLATION OF SUBSURFACE DETENTION / INFILTRATION BASIN
   - PROVIDE LANDSCAPE RESTORATION TO HELP REDUCE RUNOFF VOLUME.
   - MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL.
   - MAINTAIN GENERALLY THE SAME DRAINAGE PATTERNS AS IN THE EXISTING CONDITION
   - PROVIDE AMENDED SOILS THROUGHOUT THE SITE TO HELP REDUCE RUNOFF VOLUME.
4. THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE IMPERVIOUS AREAS:
   - INCREASE IN PERVIOUS AREA WITHIN LIMIT OF DISTURBANCE BY APPROXIMATELY 2%
   - ONLY PROVIDE SIDEWALK WHERE REQUIRED FOR PEDESTRIAN ACCESS.
   - MAXIMIZE THE NUMBER OF LANDSCAPED ISLAND WITHIN THE SITE.
5. THE FOLLOWING MEASURES ARE TAKEN TO MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION:
   - ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE.
   - PROTECT WOODLANDS/EXISTING TREES WITH TREE PROTECTION FENCING.
   - MAINTAIN EXISTING FLOW PATH TO POI#1
6. THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE LAND CLEARING AND GRADING:
   - PROTECT WOODLANDS/EXISTING TREES WITH TREE PROTECTION FENCING.
   - ADJUST ROAD SLOPE AND SITE GRADING SO THERE ARE NO DRASTIC PROPOSED CUTS OR FILLS TO EXISTING GRADES.
   - MAINTAIN EXISTING GRADES WITHIN THE SITE WHERE PLAUSIBLE.
7. THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE SOIL COMPACTION:
   - ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE.
   - AS SPECIFIED IN THE CONSTRUCTION SEQUENCE, USE TREADED MACHINERY WHERE PRACTICAL DURING EARTHMOVING OPERATIONS.
   - GRADE SITE TO MINIMIZE EXTENT OF CUTS/FILLS.
8. THE FOLLOWING MEASURES WERE TAKEN TO UTILIZE OTHER STRUCTURAL OR NONSTRUCTURAL BMPS THAT PREVENT OR MINIMIZE CHANGES IN STORM WATER RUNOFF:
   - PROVIDE LANDSCAPE RESTORATION TO HELP REDUCE RUNOFF VOLUME.
   - MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL.

TYPES, DEPTH, SLOPE, LOCATIONS AND LIMITATION OF THE SOILS AND GEOLOGICAL FORMATIONS §102.8(F)(1)
1.) EXISTING SITE COVERAGE INCLUDES BUT IS NOT LIMITED TO ONE-STORY/MASONRY BUILDINGS, ASPHALT DRIVES, SIDEWALK, PARKING AREAS, AND AREAS OF SPARSE VEGETATION.

RECEIVING SURFACE WATERS §102.8(F)(5)
1.) THERE ARE NO HQ OR EV WATERSHEDS WITHIN THE SITE.
2.) THERE ARE NO EXISTING WETLANDS ON SITE.
3.) EXISTING & DESIGNATED USES FOR THE PENNYPACK CREEK ARE TSF & MF.

RECYCLING OR DISPOSAL OF MATERIALS §102.8(F)(11)
1.) ANTICIPATED CONSTRUCTION WASTES INCLUDE BUT ARE NOT LIMITED TO: ONE-STORY BUILDINGS, SIDEWALK, ASPHALT AREAS AND EXISTING STORM SEWERS.

2.) ALL BUILDING MATERIAL AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED OR RECYCLED IN ACCORDANCE WITH DEP'S SOLID WASTE REGULATIONS (25 PA CODE 260.1 ET SEQ., 271.1 ET SE., AND 287.1 ET SEQ.,) AND/OR ANY ADDITIONAL LOCAL, STATE, OR FEDERAL REGULATIONS. NO BUILDING MATERIALS (USED OR UNUSED) OR WATER MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.

GEOLOGIC FORMATIONS OR SOIL CONDITIONS §102.8(F)(12)
1.) THERE ARE NO KNOWN GEOLOGICAL FORMATIONS/SOIL CONDITION ISSUES THAT HAVE THE POTENTIAL TO CAUSE POLLUTION.

POTENTIAL THERMAL IMPACT TO SURFACE WATERS §102.8(F)(13)
A POTENTIAL FOR THERMAL IMPACTS EXISTS IN INSTANCES WHERE SURFACE RUNOFF IS DIRECTLY CONVEYED TO A RECEIVING STREAM WITHOUT ADEQUATE ATTENUATION OR COOLING. TO AVOID THERMAL IMPACTS, THE FOLLOWING HAS BEEN EMPLOYED: DECREASE IN IMPERVIOUS SURFACES, SUBSURFACE DETENTION/INFILTRATION AND LANDSCAPE RESTORATION. ALL OF THESE MEASURES WILL HELP TO CONTROL RUNOFF VOLUME AND RATE AND THEREBY PROVIDE ADDITIONAL COOLING TIME, THEREBY MINIMIZING THERMAL IMPACTS TO THE RECEIVING STREAM.

RIPARIAN FOREST BUFFER MANAGEMENT PLAN §102.8(F)(14)
1.) THERE ARE NO EXISTING/PROPOSED RIPARIAN FOREST BUFFERS SHOWN ON THE PLAN MAPS.

BMP MAINTENANCE SCHEDULE

BMP	SCHEDULE	INSPECTION TASK	MAINTENANCE	FAILURE INDICATORS
BMP 6.4.3 SUBSURFACE INFILTRATION / SLOW RELEASE DETENTION BASIN	2 TIMES PER YEAR	- INSPECT STRUCTURES - INSPECT FOR SEDIMENT ACCUMULATION & LITTER	NEEDED MAINTENANCE SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. THE LITTER AND SEDIMENT MUST BE REMOVED TO RESTORE DESIGN CAPACITIES. THE LITTER AND SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED MANNER AND IN ACCORDANCE WITH APPLICABLE STATE REGULATIONS. ANY AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS	FAILURE INDICATORS OF THE UNDERGROUND STORMWATER BASIN INCLUDE WHEN THE BASIN DOES NOT DEWATER OR SURCHARGING OF INLETS UPSTREAM OF THE BASIN OCCURS. A QUALIFIED INDIVIDUAL SHOULD PERFORM AND INVESTIGATION IN ORDER TO DETERMINE THE CAUSE OF FAILURE. REMEDIATION SHALL BE IN ACCORDANCE WITH THE QUALIFIED INDIVIDUAL'S RECOMMENDATIONS BASED ON THEIR INVESTIGATION.
	AFTER EACH STORM > 1"	- INSPECT STRUCTURES - CONFIRM OUTLET STRUCTURE IS FREE OF DEBRIS - CONFIRM OUTLET STRUCTURE ORIFICE IS NOT CLOGGED		
BMP 6.7.2. LANDSCAPE RESTORATION	ANNUALLY	- INSPECT FOR DYING/DEAD PLANT MATERIAL - INSPECT FOR INVASIVE SPECIES	ANY PLANT THAT IS FOUND TO BE DYING AND CANNOT BE SAVED SHALL BE REPLACED IN KIND. REMOVE INVASIVE SPECIES AND DISCARD IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.	FAILURE INDICATORS INCLUDE VEGETATION THAT FAILS TO ESTABLISH OR DIES OFF, OR AN EXCESSIVE GROWTH OF INVASIVE SPECIES. UPON OBSERVING A FAILURE INDICATOR, A QUALIFIED INDIVIDUAL, SUCH AS A LANDSCAPE ARCHITECT, SHALL BE CONSULTED TO DETERMINE THE EXACT CAUSE OF THE FAILURE. REMEDIATION SHALL BE IN ACCORDANCE WITH THE QUALIFIED INDIVIDUAL'S RECOMMENDATIONS.

Know what's below. Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED TO DETERMINE THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS BEFORE COMMENCING WORK. RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD, HAVE BEEN USED IN THE PREPARATION OF THESE PLANS. THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

CORE STATES GROUP
201 S. Maple Avenue
Ambler, PA 19002
Phone (215) 809-2125
BSearcy@core-states.com

DOCUMENTS PREPARED BY CORESTATES, INC., INCLUDING THIS DOCUMENT, ARE TO BE USED ONLY FOR THE SPECIFIC PROJECT AND SPECIFIC USE FOR WHICH THEY WERE INTENDED. ANY EXTENSION OF USE TO ANY OTHER PROJECTS, BY OWNER OR BY ANY OTHER PARTY, WITHOUT THE EXPRESSED WRITTEN CONSENT OF CORESTATES, INC. IS DONE UNLAWFULLY AND AT THE USERS OWN RISK. IF USED IN A WAY OTHER THAN THAT SPECIFICALLY INTENDED, USER WILL HOLD CORESTATES, INC. HARMLESS FROM ALL CLAIMS AND LOSSES.

ITALIAN KITCHEN

ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA — REGISTERED ENGINEER — BRIAN L. SEARCY — PE083256

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION

1 08-18-2022 AGENCY REVISIONS

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD

WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing

POST-CONSTRUCTION STORMWATER MANAGEMENT NOTES

C7.5

SPECIFICATIONS

NOTES

1. 6" plain end SCH. 40 inlet/outlet
2. Unit weight - w/composite covers: 1,700 lbs.; w/cast iron covers: 1,950 lbs.
3. Maximum operating temperature: 150ßF continuous
4. Capacities
   Liquid: 1,500 gal.;
   Grease (Factory Rating):
   9,818 lbs. @ 100 GPM / 6,672 lbs. @ 200 GPM;
   Solids: 150 gal.

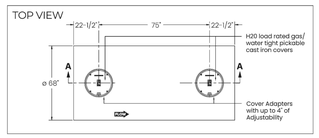
ENGINEER SPECIFICATION GUIDE

Schier Big Foot™ grease interceptor model # GGI-1502 shall be lifetime guaranteed and made in USA of seamless, molded polyethylene with minimum 3/4" uniform wall thickness. Interceptor shall be furnished for below grade installation with field adjustable riser system. Interceptor flow rate shall be 100 or 200 GPM. Interceptor grease capacity shall be 9,818 lbs. @ 100 GPM or 6,672 lbs. @ 200 GPM. Cover shall provide water/gas- tight seal and have minimum 16,000 lbs. load capacity.

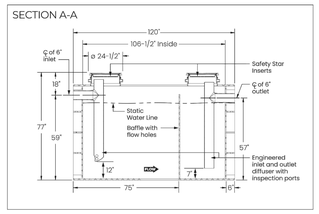
CERTIFIED DESIGN STANDARD

Big Foot™ gravity grease interceptors are third party tested and listed by IAPMO to ANSI Z1001-2016 grease interceptor standards. They are compliant to the Uniform Plumbing Code.

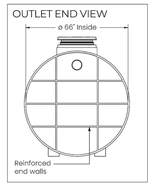
TOP VIEW



SECTION A-A



OUTLET END VIEW



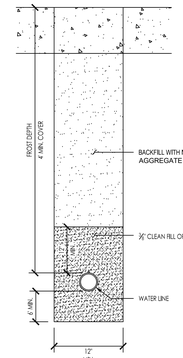
SCHIER LIFETIME GUARANTEED GREASE INTERCEPTORS

MODEL NUMBER: GGI-1500	DESCRIPTION: Polyethylene Gravity Grease Interceptor – 100/200 GPM – 1,500 gallon capacity			
PART #: 4370-002-04	DWG BY: B. Karrer	DATE: 5/9/2019	REV: B 4/11/2019	ECO:

9500 Woodend Road | Edwardsville, KS 66111 | Tel: 913-951-3300 | www.schierproducts.com

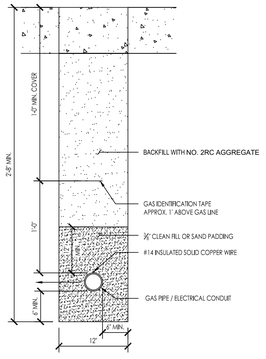
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NOTES:
TRENCH BACKFILL & RESTORATION SHALL BE IN ACCORDANCE WITH UPPER MORELAND TOWNSHIP SPECIFICATIONS.



WATER TRENCH DETAIL
N.T.S.

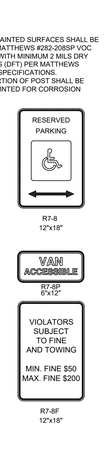
NOTES:
TRENCH BACKFILL & RESTORATION SHALL BE IN ACCORDANCE WITH UPPER MORELAND TOWNSHIP SPECIFICATIONS.



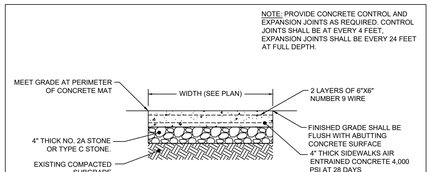
GAS / ELECTRIC TRENCH DETAIL
N.T.S.



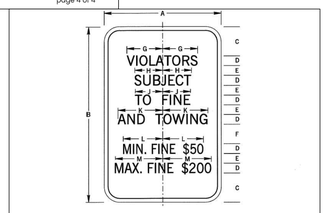
- ALL EXPOSED PAINTED SURFACES SHALL BE COATED WITH MATTHEWS #282-2085P VOC GLOSS CLEAR, WITH MINIMUM 2 MILS DRY FILM THICKNESS (DFT) PER MATTHEWS APPLICATIONS SPECIFICATIONS.
- EMBEDDED PORTION OF POST SHALL BE PRIMED AND PAINTED FOR CORROSION PROTECTION



RESTRICTED PARKING SIGN DETAIL
N.T.S.

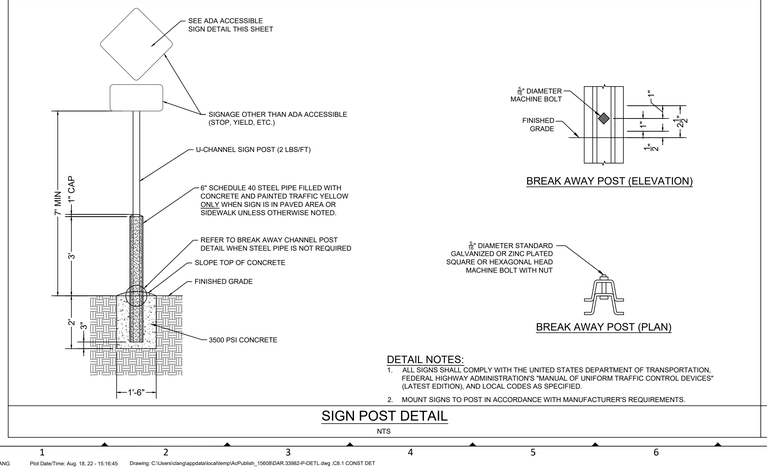


CONCRETE SIDEWALK DETAIL
NTS



DIMENSIONS – IN														
SIGN SIZE A x B	C	D	E	F	G	H	J	K	L	M	MAR-GIN	BOR-DER	BLANK STD.
12" x 18"	3	1©	1	2	3	2.4	2.3	3.6	4	4.6	0.4	0.4	B5-1218

R7-8F SIGN DETAIL
N.T.S.

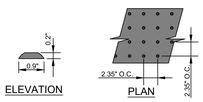


DETAIL NOTES:
1. ALL SIGNS SHALL COMPLY WITH THE UNITED STATES DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (LATEST EDITION), AND LOCAL CODES AS SPECIFIED.
2. MOUNT SIGNS TO POST IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

SIGN POST DETAIL
NTS

BREAK AWAY POST (ELEVATION)

BREAK AWAY POST (PLAN)

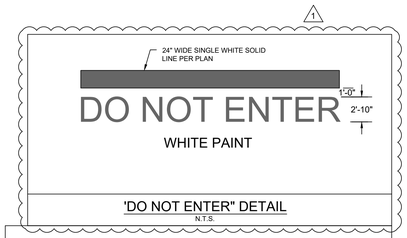


ELEVATION PLAN

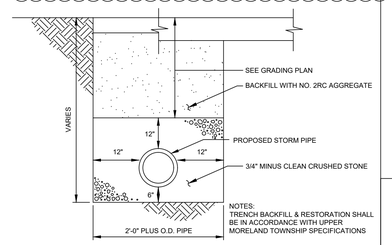
NOTE:
PREFABRICATED PANELS PER A.D.A. ACCESSIBILITY GUIDELINES SECTION 4.29.2 & A4.29.2 SHALL BE USED.

DETAIL NOTES:
1. CONSTRUCT PER A.D.A. STANDARDS.

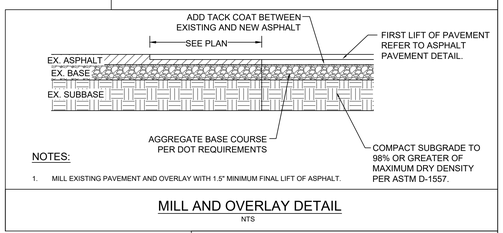
DETECTABLE WARNING DETAIL
NTS



'DO NOT ENTER" DETAIL
N.T.S.



STORM/SANITARY SEWER TRENCH DETAIL
N.T.S.

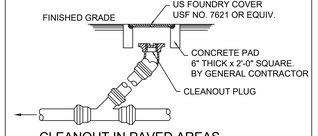


NOTES:
1. MILL EXISTING PAVEMENT AND OVERLAY WITH 1.5" MINIMUM FINAL LIFT OF ASPHALT.

MILL AND OVERLAY DETAIL
NTS

CLEANOUT IN UNPAVED AREAS

NOTE:
G.C. IS TO INSTALL CLEANOUT AT ANY PIPING ANGLE CHANGES AND AT EVERY 50' IN PIPING RUNS GREATER THAN 100' IN LENGTH.

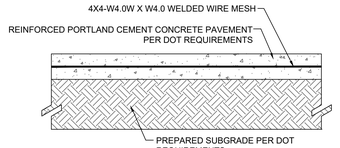


CLEANOUT IN PAVED AREAS

NOTE:
G.C. IS TO INSTALL CLEANOUT AT ANY PIPING ANGLE CHANGES AND AT EVERY 50' IN PIPING RUNS GREATER THAN 100' IN LENGTH.

CLEANOUT DETAIL
NTS

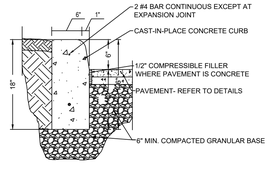
	CONCRETE SLAB LOCATION
SLAB COMPONENT	TRASH ENCLOSURE/ ADA PARKING
CONCRETE PAVEMENT	7"
AGGREGATE BASE COURSE	6"
COMPACTED SUBGRADE	12"
MINIMUM 28 DAY STRENGTH	4000 PSI



NOTE: THESE ARE MINIMUM SPECIFICATIONS, REFER TO GEOTECHNICIAL REPORT (IF AVAILABLE) FOR FINAL SPECIFICATIONS.

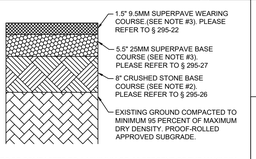
DETAIL NOTES:
1. SUBGRADE MATERIALS SHALL MEET DOT REQUIREMENTS INCLUDING COMPACTION TO 98% OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
2. CONCRETE PAVEMENT SHALL MEET THE MORE STRINGENT REQUIREMENT OF EITHER THE SPECIFICATIONS PROVIDED BY THE OWNER, LOCAL CITY/COUNTY REQUIREMENTS, OR DOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
3. CONTRACTOR TO CONSTRUCT CONCRETE PAVEMENT WITH TRANSVERSE JOINTS AT 10' O.C. JOINTS TO BE CONSTRUCTED PER DETAIL ON THIS PAGE.
4. CONTRACTOR TO DOWEL AND JOINT BETWEEN CONCRETE SLAB AND CURB.

CONCRETE SLAB DETAIL
NTS



NOTE:
CONCRETE CURB SHALL BE POURED WITH CLASS AAA CONCRETE WITH A 4,000 PSI 28-DAY COMPRESSIVE STRENGTH

ON-SITE CONCRETE CURB DETAIL
NTS



NOTE:
1. SUBGRADE TO BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY, AS DETERMINED BY THE MODIFIED PROCTOR TEST, ASTM D 1557, AND SHALL CONSIST OF LOAD-BEARING FILL OR EXISTING STRATUM A MATERIALS CAPABLE OF ACHIEVING A CBR VALUE OF 5. THE MOISTURE CONTENT OF THE MATERIAL SHOULD ALSO BE MAINTAINED WITHIN +/- 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT.
2. THE COURSE MATERIAL OF THE CRUSHED STONE BASE COURSE SHALL BE TYPE A OR BETTER, STONE OR SLAG, MEETING THE REQUIREMENTS FOR NO. 1 AGGREGATE AND SHALL BE UNIFORM IN QUALITY, GRADED AND OF SUCH SIZE AS TO CONFORM WITH TABLE C, SIZE AND GRADING REQUIREMENTS FOR COURSE AGGREGATE, SECTION 703.2 OF FORM 408, OR THE EQUIVALENT SECTION IN ANY REVISION OF FORM 408. THE FINE MATERIAL OF THE CRUSHED STONE BASE COURSE SHALL BE TYPE A OR BETTER, STONE OR SLAG, MEETING THE REQUIREMENTS FOR NO. 10 AGGREGATE AND SHALL BE UNIFORM IN QUALITY, GRADED AND OF SUCH SIZE AS TO CONFORM WITH TABLE C, SIZE AND GRADING REQUIREMENTS FOR COURSE AGGREGATE, SECTION 703.2 OF FORM 408, OR THE EQUIVALENT SECTION IN ANY REVISION OF FORM 408.
3. THE FINE AGGREGATE FOR THE BASE COURSE SHALL BE REASONABLY UNIFORM IN ITS PHYSICAL PROPERTIES AND SHALL MEET THE GRADING AND QUALITY REQUIREMENTS SPECIFIED IN THE CURRENT PENNSYLVANIA DEPARTMENT OF TRANSPORTATION, FORM 408. THE MATERIAL SHALL BE NATURAL SAND AND/OR STONE SAND, COMPOSED OF HARD, TOUGH, DURABLE, UNCOATED PARTICLES, FREE FROM CLAY, SILT, VEGETATION OR OTHER SUBSTANCES DETERMINED TO BE DELETERIOUS. THE COURSE AGGREGATE FOR THE BASE COURSE SHALL TYPE A STONE, GRAVEL OR SLAG REASONABLY UNIFORM IN ITS PHYSICAL PROPERTIES AND SHALL MEET THE REQUIREMENTS FOR NO. 1B AND NO. 2B MATERIAL SPECIFIED IN THE CURRENT PENNSYLVANIA DEPARTMENT OF TRANSPORTATION FORM 408. THE MATERIAL SHALL BE COMPOSED OF HARD, TOUGH, DURABLE, UNCOATED PARTICLES, FREE FROM HARMFUL AMOUNTS OF CLAY, SILT, VEGETATION OR OTHER SUBSTANCES DETERMINED TO BE DELETERIOUS.
4. THE FINE AGGREGATE FOR THE WEARING COURSE SHALL MEET THE REQUIREMENTS FOR BITUMINOUS MIXTURES SPECIFIED FOR SUPERPAVE 9.5 MM WEARING COURSE. THE COURSE AGGREGATE FOR THE WEARING COURSE SHALL BE TYPE A STONE, GRAVEL, OR SLAG MEETING THE REQUIREMENTS FOR NO. 1B MATERIAL SPECIFIED FOR SUPERPAVE 9.5 MM WEARING COURSE.

ASPHALT PAVEMENT DETAIL
NTS

SOLID PARKING SPACE LINE (4" WIDE WHITE)

SOLID PARKING LINE (4" WIDE BLUE)

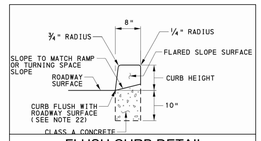
SOLID CROSSWALK TRANSVERSE LINE (4" WIDE WHITE)

SOLID LANE LINE (6" WIDE WHITE)

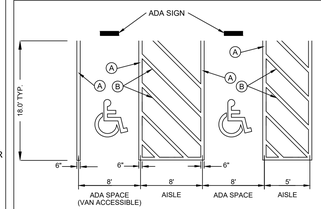
SOLID STOP BAR LINE (24" WIDE WHITE)

DETAIL NOTE:
ALL STRIPING SHALL BE PAINTED UNLESS OTHERWISE SPECIFIED ON THE SITE PLAN AND SHALL MEET THE CRITERIA OF STATE AND LOCAL AUTHORITIES HAVING JURISDICTION.

STRIPING DETAIL
NTS



FLUSH CURB DETAIL
NTS

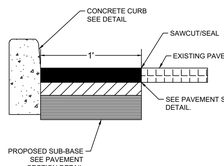


ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:50 (2%) IN ALL DIRECTIONS

STRIPING LEGEND
(A) 6" BLUE
(B) 6" BLUE @ 45°, 36" O.C.

N.T.S.

ADA ACCESSIBLE STRIPING DETAIL
NTS



NOTES:
TRENCH BACKFILL & STREET RESTORATION SHALL BE IN ACCORDANCE WITH UPPER MORELAND TOWNSHIP SPECIFICATIONS.

PAVEMENT RESTORATION DETAIL
NTS

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

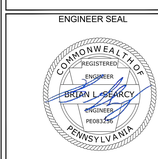
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN PLANS AND/OR FIELD SURVEYS AND MAY NOT REFLECT ACTUAL CONDITIONS OR MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

CORE STATES GROUP
201 S. Maple Avenue
Ambler, PA 19002
Phone (215) 809-2125
BSearcy@core-states.com

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Olive Garden ITALIAN KITCHEN

ENGINEER SEAL



08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION

⚠1 08-18-2022 AGENCY REVISIONS

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD
WILLOW GROVE, PA 19090

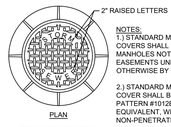
AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing
CONSTRUCTION DETAILS

C8.1

User: CLANG Plot Date/Time: Aug. 18, 22 - 15:16:45 Drawing: C:\Users\clang\appdata\local\temp\AcPublish_15608\DAR.33982-P-DETL.dwg, C8.1 CONST DET



NOTES:
1. FOR PIPES 30 INCHES INSIDE DIAMETER OR LESS
2. FOR BASE SLAB DIMENENSIONS SEE TABLE "A"

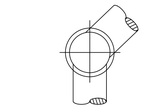
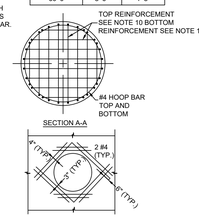


TABLE A
BASE SLAB DIMENSIONS

MAX. DEPTH FROM TOP OF MANHOLE TO TOP OF FOOTING	AS DESIGNED (SEE NOTE 12)	
	FOOTING DIAMETER	FOOTING THICKNESS
10'-0"	6'-9"	1'-0"
20'-0"	6'-9"	1'-0"
30'-0"	6'-9"	1'-3"
40'-0"	7'-3"	1'-3"
50'-0"	8'-0"	1'-3"
60'-0"	8'-6"	1'-3"



NOTE: FOR WALL THICKNESS 10" THICK OR GREATER PLACE ADDITIONAL REINFORCEMENT AS SHOWN ABOVE AT EACH FACE OF THE WALL INSIDE MAIN REINFORCEMENT. FOR WALLS 5" THICK KEEP MAIN REINFORCEMENT CENTERED IN WALL. PROVIDE ADDITIONAL REINFORCEMENT AS SHOWN ABOVE, MAINTAINING REQUIRED COVER.

REINFORCEMENT DETAIL AT OPENINGS

NOTES:
1. PRECAST MANHOLES, MEETING THE REQUIREMENTS OF PUBLICATION 408 SPECIFICATIONS, SECTION 714, MAY BE SUBSTITUTED FOR THE STANDARD CAST-IN-PLACE MANHOLE.
2. CONSTRUCTION NOTES:
A. CONSTRUCT IN ACCORDANCE WITH PENNDOT PUBLICATION 408 SPECIFICATIONS, SECTIONS 605,606,714 AND ASTM C-478-90, STANDARD SPECIFICATIONS FOR PRECAST REINFORCEMENT CONCRETE MANHOLE SECTIONS AS MODIFIED HERE IN:
B. MINIMUM CONCRETE CLASS AA
C. PROVIDE EPOXY COATED STEEL REINFORCEMENT IN ACCORDANCE WITH ASTM A185, STEEL WELDED WIRE FABRIC ASTM A663 & A675, PLAIN BILLET STEEL BARDS OR ASTM A615, DEFORMED BILLET STEEL BARS PROVIDE MINIMUM YIELD STRENGTH OF 60,000 PSI.
D. CLEAR COVER FOR STEEL:
WALLS: 2"
FOOTINGS: 2" (TOP BARS), 1 1/2" (BOTTOM BARS) 1 1/2" (SIDE COVER)
3. PROVIDE 12" MINIMUM HORIZONTAL CLEARANCE BETWEEN OPENINGS LOCATED AT THE SAME DEPTH. PIPES NOT LOCATED AT THE SAME DEPTH MUST BE LOCATED VERTICALLY AT LEAST ONE TIMES MAXIMUM OPENING DIAMETER APART.
4. FOR RISERS OR BASE SECTIONS WITH OPENINGS, PROVIDE A MINIMUM HEIGHT OF SECTION EQUAL TO TWO TIMES THE LARGEST OPENING. CENTER OF OPENING TO BE LOCATED AT LEAST ONE TIMES THE OPENING FROM THE CLOSEST JOINT BETWEEN RISERS.
5. FOR PRECAST RISER OR BASE SECTIONS WITH ONE OPENING LOCATED AT DEPTHS TO 60' OR FOR SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT A DEPTH OF 16 FEET AND LESS, PROVIDE CIRCUMFERENTIAL REINFORCEMENT IN ACCORDANCE WITH REINFORCEMENT DETAIL AT OPENINGS.

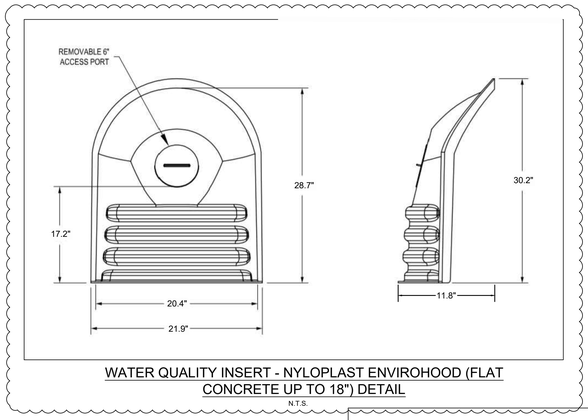
FOR RISERS OR BASE SECTIONS WITH 2 OR MORE OPENINGS, LOCATED AT A DEPTH GREATER THAN 15 FEET, BUT LESS THAT OR EQUAL TO 30 FEET, PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.44 SQ/IN VERTICAL FOOT FOR THE DEPTH OF THE RISER OR BASE SECTION

FOR RISERS OR BASE SECTIONS WITH 2 OR MORE OPENINGS, LOCATED AT A DEPTH GREATER THAN 30 FEET, USE A 10 INCH THICK WALL RISER OR BASE SECTION WITH CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ/IN VERTICAL FOOT EACH FACE.

RISERS OR BASE SECTIONS WITH HOLES TO BE CLEARLY MARKED ALLOWABLE DEPTH.

6. PROVIDE ADDITIONAL REINFORCEMENT BARS AROUND OPENINGS AS SHOWN ON REINFORCEMENT DETAILS AT OPENINGS.
7. PROVIDE MANHOLE STEPS MEETING THE REQUIREMENTS OF PUBLICATION 408 SPECIFICATIONS, SECTION 605.2(C). ALTERNATE CONFIGURATIONS AND DIMENSIONS, AS APPROVED BY THE ENGINEER, MAY BE USED.
8. PROVIDE MINIMUM 1" SECTION DIMENSION FOR METAL STEPS. PROVIDE MAXIMUM 3/4" SECTION DIMENSION FOR NON-DETERIORATING MATERIAL STEPS.
9. MECHANICAL ANCHOR REQUIRED FOR INSTALLATION OF STEPS WITHOUT HOOKS.
10. FOR FOOTING TOP REINFORCEMENT, BOTH DIRECTIONS, USE NO.19 (6) BARS AT 12" FOR DEPTHS TO 60' OR 0.30 IN²/FT WWF FOR DEPTHS TO 30' AND 0.32 IN²/FT WWF FOR DEPTHS GREATER THAN 30'. 6" MAXIMUM SPACING FOR WWF.
11. FOR FOOTING BOTTOM REINFORCEMENT, BOTH DIRECTIONS, USE NO. 13 (4) BARS AT 18" FOR DEPTHS TO 60' OR 0.15 IN²/FT WWF FOR DEPTHS TO 30' AND 0.16 IN²/FT WWF FOR DEPTHS GREATER THAN 30'. 6" MAXIMUM SPACING FOR WWF.
12. A SAFE BEARING CAPACITY OF (1.5 TONS PER SF) UNDER THE ENTIRE SLAB IS ASSUMED TO DETERMINE THE BASE SIZE. WHEN THE SUBSOIL IS EXTREMELY POOR, PROCEED WITH CONSTRUCTION ONLY AFTER THE ENGINEER SPECIFIES ADEQUATE BASE DESIGN.
13. 2 - 1" WEEP HOLES TO BE INSTALLED ON ALL MANHOLES WITH ANY SUMP DEPTH

PRECAST STORM MANHOLE DETAILS
N.T.S.



1

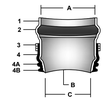
WATER QUALITY INSERT - NYLOPLAST ENVIROHOOD (FLAT CONCRETE UP TO 18") DETAIL
N.T.S.

IPS/SCH 40 GASKETED BELL GRAVITY APPLICATIONS

A. BELL END ACCEPTS PIPE WITH IPS/SCH 40 OR EQUIVALENT O.D. SPECIFICATION IN 4", 6", 8", 10" AND 12" SIZES

B. CURVATURE VARIES WITH MAINLINE DIAMETERS.

C. SPIGOT END PVC SDR 26, ASTM D3034 DIAMETERS: 4", 6", 8", 10", AND 12"



PART	PART NAME
1	HUB ADAPTOR
2	RUBBER GASKET
3	SECURING CLAMP*
4	RUBBER SLEEVE (AVAILABLE IN NITRILE AND EPDM BY SPECIAL ORDER)
4A	UPPER SEGMENT**
4B	LOWER SEGMENT***

MATERIALS
SDR 26 HWS ASTM D3034
ASTM F477
BAND SS #301
SCREW SS #305
HOUSING SS #301
ASTM F477

* OPTIONAL #316 STAINLESS STEEL BAND, SCREW AND HOUSING
** DISTANCE BETWEEN 4A AND 4B WILL VARY BY PRODUCT TYPE
*** WILL NOT APPEAR ON RUBBER SLEEVES FOR CONCRETE OR CLAY PIPE

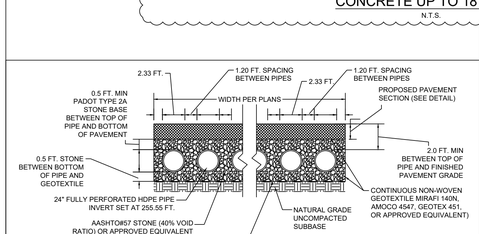
INSERTA TEE SIZE	HOLE DIAMETER
4" (100 mm)	4 3/8" (114 mm)
6" (150 mm)	6 3/8" (165 mm)
8" (200 mm)	8 3/8" (222 mm)
10" (250 mm)	10 7/8" (276 mm)
12" (300 mm)	12 7/8" (327 mm)

NOTE: RECOMMENDED METHOD OF CUTTING HOLE IS WITH HOLE SAW FOR PVC AND OTHER PLASTICS, AND DIAMOND BIT FOR CONCRETES, CLAY, FRP AND D.I. (SEE INSTALLATION INSTRUCTIONS. HOLE SAWS ARE AVAILABLE FOR PURCHASE OR RENT.)

INSERTA TEE | PO BOX 714 CORNELIUS, OR 97116
PH (503) 357-2110 FAX (503) 359-5417
SALES@INSERTATEE.COM

IPS/SCH 40-GASKETED BELL GRAVITY APPLICATION SPECIFICATIONS
SCALE: NTS
DATE: 9/12/2013
DRAWN BY: KLJ

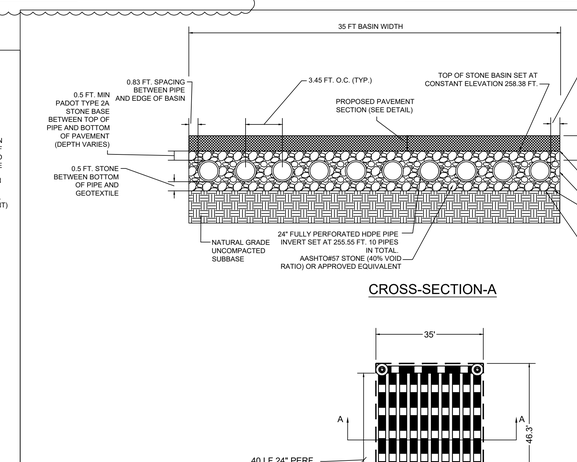
THIS PRINT AND/OR DATA IS SUBJECT TO INSERTA INSERTS TEE HAS PROPRIETARY RIGHTS IN THE DESIGN OF REPRODUCTION OF THE PRINT AND/OR DATA CONTAINED THEREON, OR LOANED THE USE OF THE PRINT AND/OR DATA, AND IN CONSIDERATION FOR SUCH USE, AGREES NOT TO REPRODUCE THE INFORMATION CONTAINED HEREIN, OR MANUFACTURE OR BUY ARTICLE WERETRON, FOR THE PURPOSE OF SUBMITTING QUOTATIONS OR TENDERING, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM INSERTA TEE.



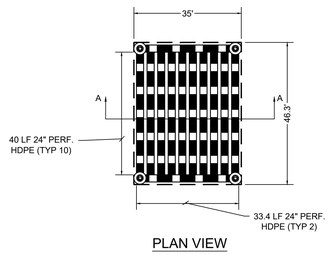
SPECIFICATIONS FOR CRUSHED STONE AGGREGATE FOR USE IN THE STORMWATER DETENTION BASIN:

1. A UNIFORMLY GRADED CRUSHED STONE (AASHTO#57) PROVIDED THAT STONE IS PROPERLY CLEANED AND THAT A MINIMUM VOID RATIO OF 40% IS PROVIDED. HIGHER VOID THE RATIOS MAY BE SELECTED BY THE DESIGN ENGINEER, AND IF SO, THE DESIGN VOID RATIO SHALL GOVERN. IN ORDER TO INSURE THAT THE STONE USED IS PROPERLY CLEANED, IN ADDITION TO AASHTO DESIGNATION: M43-88 GRADATION, THE PERCENT PASSING THE NO. 200 SIEVE SHALL NOT EXCEED 0.2%
2. A CERTIFICATION FROM THE MANUFACTURER DOCUMENTING THE FULL GRADATION AND VOID RATIO SHALL BE OBTAINED.
3. WHEN, IN THE OPINION OF THE TOWNSHIP INSPECTOR OR THE GEOTECHNICAL ENGINEER, THE STONE IS NOT CONSISTENT WITH THE APPROVED SAMPLE, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE THE STONE RETESTED AND CERTIFIED BEFORE ANY ADDITIONAL STONE IS INSTALLED OR DELIVERED.
4. ALL STONE SAMPLES AND CERTIFICATIONS SHALL BE SUBMITTED TO THE UPPER MORELAND TOWNSHIP ENGINEER 14 DAYS PRIOR TO THE START OF STORMWATER DETENTION / INFILTRATION BASIN CONSTRUCTION.
6. EXCAVATION OF THE INFILTRATION FACILITIES SHALL BE PERFORMED WITH EQUIPMENT WHICH WILL NOT COMPACT THE BOTTOM OF THE SEEPAGE BED/TRENCH, OR LIKE FACILITY.
7. THE BOTTOM OF THE TRENCH SHALL BE SCARIFIED PRIOR TO THE PLACEMENT OF AGGREGATE.
8. ONLY CLEAN AGGREGATE, FREE OF DEBRIS, SHALL BE ALLOWED.
9. THE TOP AND SIDES OF ALL SEEPAGE BEDS, TRENCHES, OR LIKE FACILITIES SHALL BE COVERED WITH CONTINUOUS NON-WOVEN GEOTEXTILE MIRAFI 140N, AMOCO 4547, GEOTEX 451, OR APPROVED EQUIVALENT.
10. CONSTRUCTION OF ALL SUBSURFACE FACILITIES SHALL PREVENT SILT FROM CLOGGING THE AGGREGATE BACKFILL.
11. CONTRACTOR TO REVIEW AND IMPLEMENT PIPE BEDDING AND BACKFILL REQUIREMENTS RECOMMENDED BY THE SPECIFIC PIPE MANUFACTURER.
12.) ALL INFILTRATION BEDS SHALL BE LINED WITH CONTINUOUS NON-WOVEN GEOTEXTILE MIRAFI 140N, AMOCO 4547, GEOTEX 451, OR APPROVED EQUIVALENT AND BACKFILLED WITH CLEAN WASHED AGGREGATE. THESE SHALL BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL/SEDIMENT HAS CONTAMINATED THESE ITEMS, THE MATERIALS SHALL BE REPLACED AND/OR CLEANED AS NECESSARY.

SUBSURFACE DETENTION / INFILTRATION BASIN DETAIL
N.T.S.

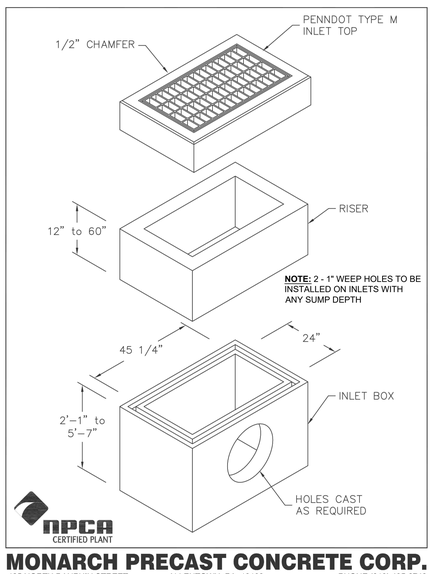


CROSS-SECTION-A



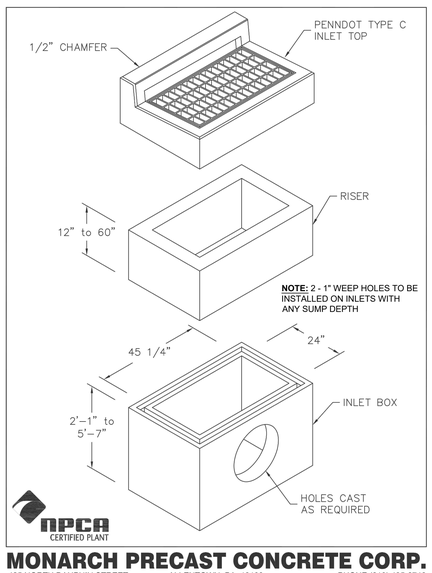
PLAN VIEW

CROSS SECTION OF SUBSURFACE DETENTION / INFILTRATION BASIN
N.T.S.



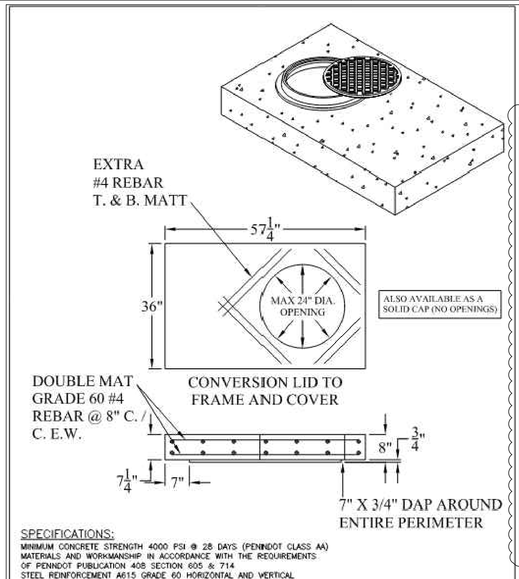
MONARCH PRECAST CONCRETE CORP.
425 NORTH DAUPHIN STREET ALLENTOWN, PA. 18109 PHONE (610) 435-6746
WWW.MONARCHPRECAST.COM FAX (610) 437-7133

PENNDOT 24"x45" INLET BOX w/ TYPE M INLET TOP (RC-45M & RC-46M)



MONARCH PRECAST CONCRETE CORP.
425 NORTH DAUPHIN STREET ALLENTOWN, PA. 18109 PHONE (610) 435-6746
WWW.MONARCHPRECAST.COM FAX (610) 437-7133

PENNDOT STANDARD INLET BOX w/ TYPE C INLET TOP (RC-45M & RC-46M)



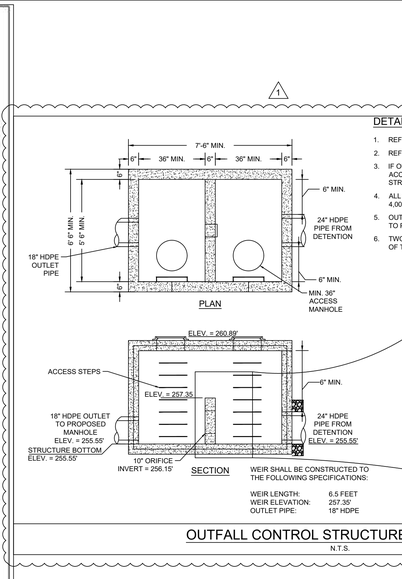
SPECIFICATIONS:
MINIMUM CONCRETE STRENGTH 4000 PSI @ 28 DAYS (PENNDOT CLASS AA)
MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH THE REQUIREMENTS OF PENNDOT PUBLICATION 408 SECTION 605 & 714
STEEL REINFORCEMENT A615 GRADE 60 HORIZONTAL AND VERTICAL

Continental Concrete Products, Inc.
1 Smith Groustown Rd.
Pottstown, PA 19464
Phone: (610) 327-5750
Fax: (610) 327-9488

PENNDOT STANDARD INLET
CONVERSION LID w/ MAX. 24" DIA.
MANHOLE FRAME & COVER

SIGNATURE OF APPROVAL | DATE: 2/08/16 | DWG: 2X4-MHCV | STRUCTURE:

1



DETAIL NOTES:
1. REFER TO ORIFICE DETAIL INSET.
2. REFER TO MANHOLE COVER DETAIL.
3. IF OUTFALL CONTROL STRUCTURE IS LOCATED IN AREA ACCESSIBLE TO VEHICULAR TRAFFIC, MANHOLE LID AND STRUCTURES TO BE TRAFFIC RATED.
4. ALL CONCRETE TO BE 6" MINIMUM THICKNESS AND SHALL BE 4,000 PSI.
5. OUTFALL CONTROL STRUCTURE MANHOLE SHALL BE OFFSET TO PROVIDE DIRECT ACCESS TO STRUCTURE ACCESS STEPS.
6. TWO (2) MANHOLES ARE TO BE PROVIDED SO THAT BOTH SIDES OF THE WEIR WALL CAN BE EASILY ACCESSED.

WEIR SHALL BE CONSTRUCTED TO THE FOLLOWING SPECIFICATIONS:
WEIR LENGTH: 6.5 FEET
WEIR ELEVATION: 257.35'
OUTLET PIPE: 18" HDPE

OUTFALL CONTROL STRUCTURE DETAIL
N.T.S.

Know what's below. Call before you dig.
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITY AND/OR STRUCTURES AS SHOWN ON THESE DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THAT ALL UTILITIES ARE SHOWN ON THESE PLANS. IT IS THE RESPONSIBILITY OF THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

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Ambler, PA 19002
Phone (215) 809-2125
BSearcy@core-states.com

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Olive Garden ITALIAN KITCHEN

ENGINEER SEAL
COMMONWEALTH OF PENNSYLVANIA REGISTERED ENGINEER BRIAN J. SEARCY PROFESSIONAL ENGINEER
08/18/2022
BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION
1 08-18-2022 AGENCY REVISIONS

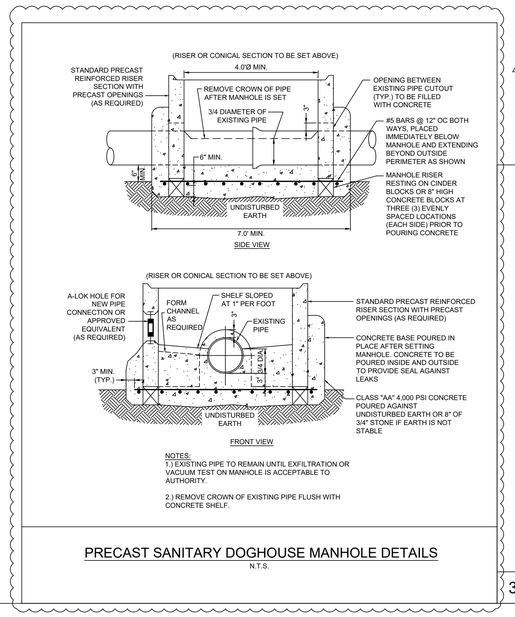
Restaurant #: xxxx

OLIVE GARDEN
2402 EASTON ROAD
WILLOW GROVE, PA 19090
AUTHORIZED FOR: PERMIT / BID
WILLOW GROVE, PA

Drawing
CONSTRUCTION DETAILS

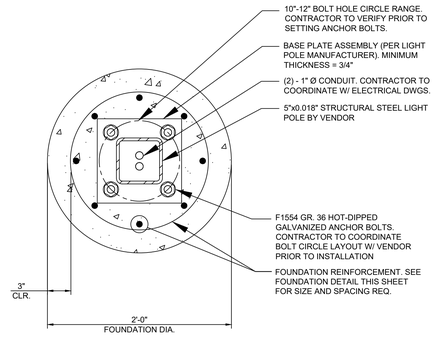
C8.2

User: CLANG Plot Date/Time: Aug. 18, 22 - 15:16:48 Drawing: C:\Users\clang\appdata\local\temp\AcPublish_15608\DAR.33982-P-DETL.dwg ,C8.2 CONST DET



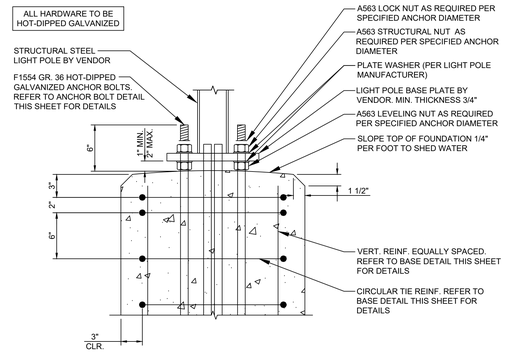
PRECAST SANITARY DOGHOUSE MANHOLE DETAILS

N.T.S.



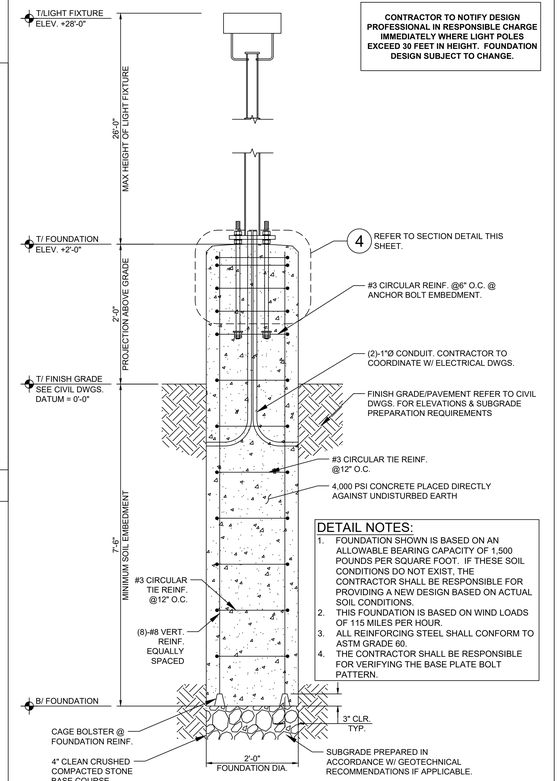
SCALE: 1 1/2" = 1'-0"

3 BASE DETAIL



SCALE: 3/4" = 1'-0"

4 SECTION DETAIL



DETAIL NOTES:

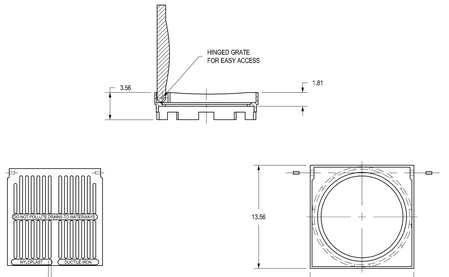
1. FOUNDATION SHOWN IS BASED ON AN ALLOWABLE BEARING CAPACITY OF 1,500 POUNDS PER SQUARE FOOT. IF THESE SOIL CONDITIONS DO NOT EXIST, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A NEW DESIGN BASED ON ACTUAL SOIL CONDITIONS.
2. THIS FOUNDATION IS BASED ON WIND LOADS OF 115 MILES PER HOUR.
3. ALL REINFORCING STEEL SHALL CONFORM TO ASTM GRADE 60.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE BASE PLATE BOLT PATTERN.

SCALE: 3/4" = 1'-0"

1 LIGHT POLE FOUNDATION DETAIL

1299CGP

APPROX. DRAIN AREA = 50.60 SQ IN
APPROX. WEIGHT WITH FRAME = 35.04 LBS



DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-10 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
SIZE OF OPENING MEETS REQUIREMENTS OF AMERICAN DISABILITY ACT AS STATED IN FEDERAL REGISTER PART III, DEPARTMENT OF JUSTICE, 28 CFR PART 36.
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-034

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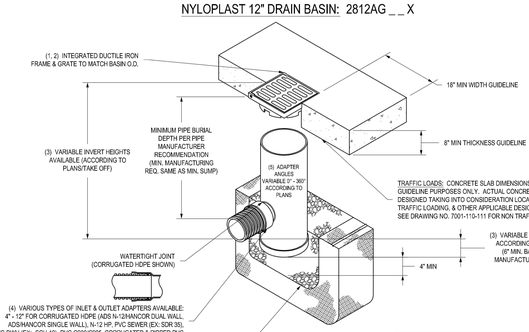
DRAWN BY	EBC	MATERIAL	DUCTILE IRON
DATE	03-03-06		
REVISED BY	CCA	PROJECT NO./NAME	
DATE	09-28-13		
DWG SIZE	A	SCALE 1:8	SHEET 1 OF 1

Nyloplast — 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com

TITLE: 12 IN PEDESTRIAN GRATE ASSEMBLY

DWG NO. 7001-110-202 REV D

NYLOPLAST 12" DRAIN BASIN: 2812AG _ _ X



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1299CGP	7001-110-202
STANDARD	MEETS H-20	1299CGS	7001-110-203
SOLID COVER	MEETS H-20	1299CGC	7001-110-204
PEDESTRIAN BRONZE	N/A	1299CGPB	7001-110-205
DOME	N/A	1299CGD	7001-110-206
DROP IN GRATE	LIGHT DUTY	1297CP	7001-110-021

1 - 8" - 30" DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536
2 - 8" & 10" DOME GRATES FIT ONTO THE DYNA-BASIN® WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DYNA-BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12®/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 8" - 30" DOME GRATES HAVE NO LOAD RATING.

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DRAWN BY	EBC	MATERIAL	
DATE	03-29-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-11-16		
DWG SIZE	A	SCALE 1:20	SHEET 1 OF 1

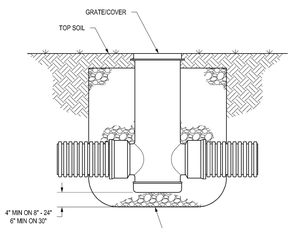
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TITLE: 12 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

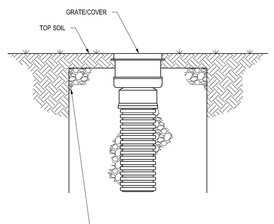
DWG NO. 7001-110-189 REV E

NON TRAFFIC INSTALLATION

DRAIN BASIN



INLINE DRAIN



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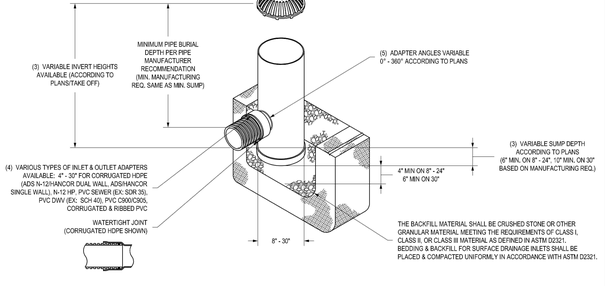
DRAWN BY	CJA	MATERIAL	
DATE	9-30-09		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-11-16		
DWG SIZE	A	SCALE 1:25	SHEET 1 OF 1

Nyloplast — 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com

TITLE: DRAIN BASIN & INLINE DRAIN NON TRAFFIC INSTALLATION

DWG NO. 7001-110-111 REV E

NYLOPLAST DRAIN BASIN WITH DOME GRATE



1 - 8" - 30" DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536
2 - 8" & 10" DOME GRATES FIT ONTO THE DYNA-BASIN® WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DYNA-BASIN® TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12®/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 8" - 30" DOME GRATES HAVE NO LOAD RATING.

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DRAWN BY	EBC	MATERIAL	
DATE	03-25-10		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-11-16		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

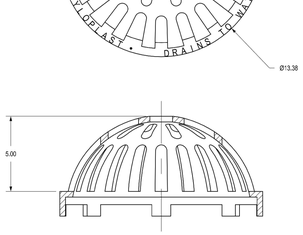
Nyloplast — 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com

TITLE: DRAIN BASIN WITH DOME GRATE QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-397 REV D

1299CGD

APPROX. DRAIN AREA = 82.87 SQ IN
APPROX. WEIGHT = 18.50 LBS



SECTION A-A

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST

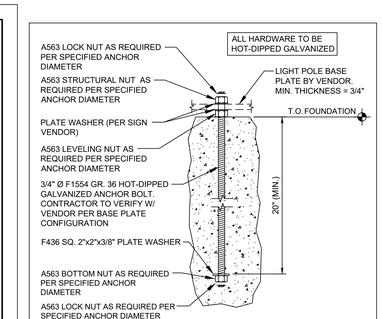
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DRAWN BY	EBC	MATERIAL	DUCTILE IRON
DATE	03-06-06		
REVISED BY	CCA	PROJECT NO./NAME	
DATE	09-30-13		
DWG SIZE	A	SCALE 1:4	SHEET 1 OF 1

Nyloplast — 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com

TITLE: 12 IN DOME GRATE

DWG NO. 7001-110-266 REV E



SCALE: 1 1/4" = 1'-0"

2 ANCHOR BOLT DETAIL

811 Know what's below. Call before you dig.
THE CONTRACTOR IS SPECIFICALLY CAUTIONED TO CONSIDER THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THE PLANS AND IN RECORDS ON DESIGN DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, BY EXCAVATION AHEAD OF THE TRENCHING OPERATIONS. THE LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

CORE STATES GROUP
201 S. Maple Avenue
Ambler, PA 19002
Phone (215) 809-2125
BSearcy@core-states.com

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ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA REGISTERED ENGINEER BRIAN L. SEARCY

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date:	04.27.2022
REVISION INFORMATION	
1 08-18-2022 AGENCY REVISIONS	

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD
WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing
CONSTRUCTION DETAILS

C8.3



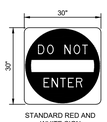
PAINTED STOP BAR & "STOP" LETTERING DETAIL

N.T.S.

R1-1
30"x30"

STOP SIGN DETAIL

NTS

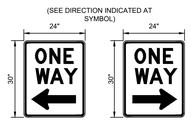


STANDARD RED AND WHITE SIGN

R5-1

"DO NOT ENTER" SIGN

N.T.S.

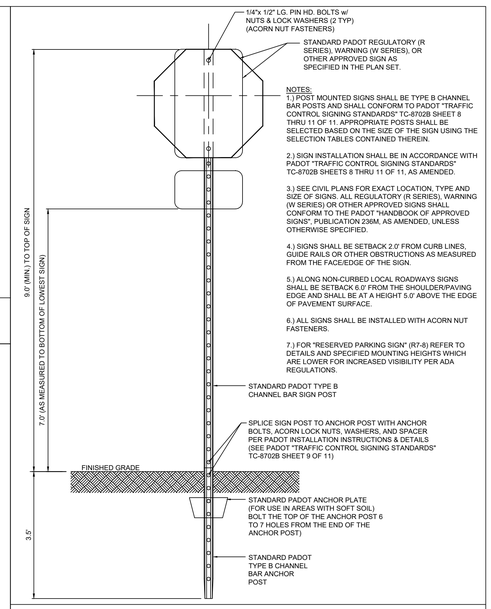


BLACK LEGEND ON WHITE BACKGROUND

R6-2L R6-2R

"ONE WAY" SIGNS

N.T.S.



STANDARD POLE MOUNTED SIGN INSTALLATION DETAIL

NTS

Know what's below. Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED TO VERIFY ALL LOCATIONS AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS OR SHOWN ON ASSOC. DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, BY EXCAVATION AHEAD OF THE WORK. THE CONTRACTOR SHALL NOT ASSUME THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

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Olive Garden ITALIAN KITCHEN

ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA REGISTERED ENGINEER BRIAN L. SEARCY PROFESSIONAL ENGINEER

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION

1 08-18-2022 AGENCY REVISIONS

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD

WILLOW GROVE, PA 19090

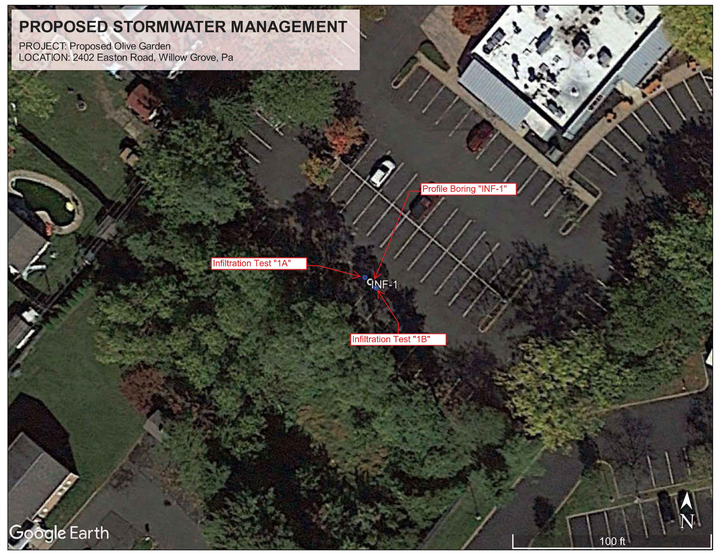
AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing

CONSTRUCTION DETAILS

C8.4



Soil Profile Description Sheet

Project Name: 2402 Easton Road

Date: 12/23/20221

Project Location:

Tested by: Stephen Dadio, CPSS/CPSC

Test Location:

Boring #: 1

LIMITING ZONES

Soil mapped: Urban Land - Lawrenceville
Soil classified: Fill over Lawrenceville
Taxonomic class: Fine-loamy, mixed, semiactive, mesic Oxyaquic Hapludalfs

Depth of Rock Limiting Layer: —
Depth to Redoximorphic Features: 42-66*
Depth to Seepage: —

Horizon	Depth (inches)	Color	Texture	Rock Fragments		Structure			Moist Consistence	Redoximorphic Features			Boundary
				Size	Quantity (%)	Grade	Size	Type		Abundance	Size	Contrast	
^M	0-8	Macadam											abrupt/smooth
^C	8-42	5YR 3/1	loam	channers	20	0		m	friable				abrupt/smooth
Btb	42-66	2.5Y 5/4	silt loam			2	m	sbk	friable	common	medium	distinct	abrutp/wavy
2C1	66-72	5YR 4/4	sandy loam			0		m	friable				clear/wavy
2C2	72-120	2.5YR 4/4	loam			0		m	friable-firm				clear/wavy
2C3	120-192	5YR 3/4	loam			0		m	firm				

Legend

Structure

Grade
0-Structureless
1-Weak
2-Moderate
3-Strong

Size
vf-very fine
f-fine
m-medium
co-coarse
vc-very coarse

abk-angular blocky
gr-granular
m-massiv sbk-subangular blocky
pl-platy sg-single-grained
pr-prismatic

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

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR DESCRIPTION OF UTILITIES SHOWN ON THESE PLANS ARE BASED ON RECORD DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, VISUAL EVIDENCE. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

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OLIVE GARDEN

2402 EASTON ROAD
WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing

SOIL BORINGS

C9.1

User: CLANG Plot Date/Time: Aug. 18, 22 - 15:17:03 Drawing: C:\Users\clang\appdata\local\temp\AcPublish_15608\DAR.33982-P-DETL.dwg /C9.1 SOIL BORING

SECTION 02210
SITE EARTHWORK

PART 1.00 GENERAL

1.01 WORK INCLUDED
A. THE WORK SPECIFIED IN THIS SECTION CONSISTS OF FURNISHING ALL LABOR, MATERIALS AND EQUIPMENT, AND PERFORMING ALL OPERATIONS REQUIRED TO COMPLETE THE SITE PREPARATION, EARTHWORK AND GRADING AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN. THIS WORK SHALL INCLUDE, BUT NOT BE LIMITED TO: SITE CLEARING AND GRUBBING; ROOT-RAKING; STRIPPING; REMOVAL OF MUCK AND OTHER UNSUITABLE MATERIAL; PROOF-ROLLING; EARTHWORK FOR SITE GRADING, INCLUDING DEWATERING, EXCAVATION, FILLING OR BACKFILLING, AND COMPACTION; SUPPLYING APPROVED FILL MATERIAL; FINAL SITE GRADING; AND OTHER RELATED REQUIREMENTS.
B. THE OPERATIONS SPECIFIED HEREIN SHALL BE PERFORMED WITHIN THE LIMITS INDICATED FOR SITE GRADING AND OTHER CONSTRUCTION, AS SHOWN ON THE DRAWINGS.
C. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION AGAINST CONSTRUCTION ACTIVITY FOR ALL EXISTING STRUCTURES AND UTILITIES, ABOVE THE SURFACE OR UNDERGROUND, INCLUDING TREES THAT ARE TO REMAIN, AND OTHER CONSTRUCTION ACTIVITIES CONCURRENTLY OCCURRING ON THE SITE.
D. SHOULD DAMAGE OCCUR TO ANY STRUCTURE, UTILITY OR OTHER FACILITY FROM THESE CONSTRUCTION ACTIVITIES, REPAIR OR REPLACEMENT TO A CONDITION EQUAL TO OR BETTER THAN THE ORIGINAL SHALL BE IMMEDIATELY MADE BY THE CONTRACTOR, AT NO COST TO THE OWNER.
E. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN THE TOTAL VOLUME OF ALL FILL MATERIALS REQUIRED FOR THE PROJECT SITE.
F. DEFINITIONS:
1. OPEN AREAS: OPEN AREAS SHALL BE THOSE AREAS THAT DO NOT INCLUDE BUILDING SITES, PAVED AREAS, AND STREET RIGHT-OF-WAY AND PARKING AREAS.
2. MAXIMUM DRY DENSITY: MAXIMUM DRY SOIL UNIT WEIGHT IN POUNDS PER CUBIC FOOT AT OPTIMUM MOISTURE CONTENT OF A SPECIFIC MATERIAL AS DETERMINED BY ASTM TEST DESIGNATION D-1557 (MODIFIED PROCTOR).
3. OPTIMUM MOISTURE CONTENT: PERCENTAGE OF WATER IN A SPECIFIC SOIL MATERIAL AT MAXIMUM DRY DENSITY.

1.02 RELATED WORK
A. PER LOCAL TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, LATEST EDITION.

1.03 REFERENCE INFORMATION
A. THE FOLLOWING PERTINENT GEOTECHNICAL INVESTIGATION REPORT HAS BEEN PREPARED. THE CONTRACTOR SHALL PERFORM HIS OWN SITE OBSERVATIONS/INVESTIGATIONS AS NECESSARY AND OBTAIN AND REVIEW THE CONTENTS OF THE REFERENCED REPORT TO BECOME FAMILIAR WITH THE SITE SUBSURFACE SOIL AND GROUNDWATER CONDITIONS. THE REQUIREMENTS OF THE GEOTECHNICAL REPORT SHALL PREVAIL WHERE DISCREPANCIES BETWEEN THE GEOTECHNICAL REPORT AND THE SPECIFICATIONS EXIST.

1.04 QUALITY ASSURANCE
A. TESTING OF MATERIALS TO BE USED FOR FILL, DETERMINATION OF UNSUITABLE SOIL LIMITS, DENSITY TESTING TO ADEQUATELY CONFIRM THE SPECIFIED COMPACTION, PROOF-ROLLING AND STRIP SUBGRADE OBSERVATIONS SHALL BE MADE BY A GEOTECHNICAL CONSULTANT APPROVED BY THE OWNER, AT THE EXPENSE OF THE OWNER, WITH REPORTS THEREFROM SUBMITTED TO THE OWNER DOCUMENTING THAT THE TESTING AND COMPACTION REQUIREMENTS AS OUTLINED IN THIS SPECIFICATION HAVE BEEN SATISFIED. IF INITIAL DENSITY TESTS FAIL TO MEET THE SPECIFICATIONS, RETESTING SHALL BE PERFORMED BY THE OWNER'S GEOTECHNICAL CONSULTANT AT THE EXPENSE OF THE CONTRACTOR. SAID TESTS SHALL BE PERFORMED FOR EACH LIFT OF FILL, IF MORE THAN ONE IS REQUIRED FOR THE DEPTH OF FILL, AND SHALL BE TAKEN WHERE DIRECTED BY THE ENGINEER. SHOULD TEST RESULTS BE UNSATISFACTORY, THE CONTRACTOR SHALL RECOMPACT THE FILL LIFT AND ALLOW FOR SUPPLEMENTAL TESTS BY THE GEOTECHNICAL CONSULTANT FOR THE AREA IN QUESTION.
B. A SUFFICIENT TIME SHALL BE ALLOTTED FOR THE GEOTECHNICAL CONSULTANT TO PERFORM ALL TESTS NECESSARY TO DETERMINE THAT PROPER FILL MATERIAL IS BEING USED AND COMPACTION IS BEING OBTAINED. THE CONTRACTOR SHALL SCHEDULE FILLING OPERATIONS SO AS TO PERMIT THE MAKING OF THE NECESSARY CONTROL TESTS FOR EACH LAYER PRIOR TO THE PLACING OF SUBSEQUENT LAYERS. ALL FILL LIFTS AND ALL STRIPPED OR CUT SUBGRADES (IN PAVEMENT AND BUILDING AREAS) SHALL BE TESTED ON A GENERAL SCHEDULE OF ONE (1) TEST PER 7,500 TO 10,000 SQUARE FEET. BUILDING FLOOR SLAB SUBGRADE SHALL BE TESTED ON A GENERAL SCHEDULE OF ONE (1) TEST PER 2,500 SQUARE FEET. MORE FREQUENT TESTING MAY BE REQUIRED, PARTICULARLY IN AREAS WITH PREVIOUS FAILING DENSITY TESTS.

PART 2.00 PRODUCTS

2.01 MATERIALS
A. SUITABLE MATERIALS FOR FILLS SHALL BE CLASSIFIED AS A-1, A-3, A-2-4, OR A-2-5 IN ACCORDANCE WITH AASHTO DESIGNATION M-145 AND SHALL BE FREE FROM VEGETATION, ORGANIC MATERIAL, DEBRIS, TRASH, ROOTS AND SIMILAR DELETERIOUS MATERIAL. SUITABLE MATERIALS FOR IMPORTED FILLS SHALL BE CLASSIFIED AS A-1 OR A-3 IN ACCORDANCE WITH AASHTO DESIGNATION M-145 AND SHALL CONSIST OF CLEAN, GRANULAR SOILS AND BE FREE FROM VEGETATION, ORGANIC MATERIAL, DEBRIS, TRASH, ROOTS AND SIMILAR DELETERIOUS MATERIAL. NOT MORE THAN 15 PERCENT BY WEIGHT OF FILL MATERIAL SHALL PASS THE U.S. NO.200 SIEVE.
THE USE OF FILL MATERIALS FROM ON-SITE EXCAVATIONS, WHICH MAY CONTAIN MORE THAN 15 PERCENT FINES PASSING THE NO. 200 SIEVE, SHALL BE APPROVED IN WRITING BY THE OWNER PROVIDED GEOTECHNICAL CONSULTANT BEFORE ANY REUSE. IF ALLOWED, THE LOCATION OF PLACEMENT AND ADDITIONAL HANDLING REQUIREMENTS FOR USE OF ANY MATERIAL NOT MEETING THE ABOVE SPECIFIED REQUIREMENTS FOR SUITABLE MATERIALS, MUST BE DOCUMENTED IN WRITING BY THE TESTING LABORATORY AND APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF SAID MATERIAL.
B. SUITABLE MATERIAL TO BE PLACED IN WATER: SUITABLE MATERIAL FOR FILLS TO BE PLACED IN WATER SHALL BE CLASSIFIED AS A-1 OR A-3 IN ACCORDANCE WITH AASHTO DESIGNATION M-145. NOT MORE THAN 15 PERCENT BY WEIGHT OF FILL MATERIAL SHALL PASS THE U.S. NO. 100 SIEVE.
C. UNSUITABLE MATERIALS ARE CLASSIFIED AS A-2-5, A-2-7, A-4, A-5, A-6, A-7 AND A-8 IN ACCORDANCE WITH AASHTO DESIGNATION M-145.

PART 3.00 EXECUTION

3.01 PREPARATION
A. CLEARING, GRUBBING, AND STRIPPING
1. CLEARING, GRUBBING, AND STRIPPING SHALL BE PERFORMED IN THE AREAS WHERE REQUIRED, INCLUDING DITCHES, PAVED AREAS, AREAS TO BE EXCAVATED, AREAS WHERE FILL WILL BE PLACED, AND WHERE STRUCTURES WILL BE ERECTED. IT SHALL INCLUDE THE COMPLETE REMOVAL AND SATISFACTORY DISPOSAL OF ALL TIMBERS, BRUSH, STUMPS, WEEDS, RUBBISH, ROOT-LADEN TOPSOIL, AND ALL OTHER OBSTRUCTIONS RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE EXISTING GROUND. WHERE EXCAVATION IS DESIGNATED WITHIN THE AREAS TO BE CLEARED AND GRUBBED, ALL STUMPS, ROOTS AND DELETERIOUS MATERIAL THEREBY EXPOSED, PROTRUDING THROUGH OR APPEARING ON THE SURFACE OF THE COMPLETED EXCAVATION, SHALL BE REMOVED TO A DEPTH OF TWO FEET MINIMUM BELOW THE EXCAVATED SURFACE AND REPLACED WITH SUITABLE COMPACTED BACKFILL. WITHIN ALL AREAS WHERE CLEARING AND GRUBBING IS TO BE DONE, ALL STUMPS, ROOTS, AND OTHER DEBRIS PROJECTING THROUGH OR APPEARING ON THE SURFACE OF THE GROUND SHALL BE REMOVED TO A DEPTH OF ONE (1) FOOT BELOW THE SURFACE. CLEARED, GRUBBED AND STRIPPED AREAS SHALL BE INSPECTED AND APPROVED BY THE OWNER'S GEOTECHNICAL CONSULTANT PRIOR TO ANY SUBSEQUENT EXCAVATION OR FILLING OPERATIONS.
2. DISCING SHALL BE PERFORMED WITHIN THE LIMITS OF CONSTRUCTION. DESIGNATED DISCING AREAS SHALL BE MOWED AND RAKED TO REMOVE CUTTINGS PRIOR TO DISCING OPERATIONS. THE DESIGNATED AREAS SHALL BE DISCED TWO TIMES SUCH THAT THE FIRST PASS IS IN A DIRECTION 90 DEGREES OPPOSITE THE SECOND PASS AND DISCING OPERATIONS SHALL BE COMPLETED TO A DEPTH OF 12-INCHES. SURFICIAL SOILS TO BE REMOVED FROM THE DISCED AREAS SHALL BE PLACED ONLY IN NON-STRUCTURAL OR EMBANKMENT/BERM AREAS APPROVED BY THE ENGINEER SOILS IN DISCED AREAS TO BE FILLED SHALL BE TESTED FOR ORGANIC OR FILLING BY THE OWNER'S GEOTECHNICAL CONSULTANT PRIOR TO ANY IN, OR FILLING. IF THE ORGANIC CONTENT EXCEEDS 10 PERCENT IN AREAS TO BE PAVED, OR 5 PERCENT IN BUILDING AREAS, THE SURFICIAL DISCED SOILS SHALL BE REMOVED AND PLACED IN NON-STRUCTURAL AREAS AS INDICATED ABOVE.
3. SELECTIVE CLEARING SHALL BE PERFORMED IN AREAS SHOWN ON THE DRAWINGS OR AS REQUIRED BY THE OWNER, IN ORDER TO SAVE SELECTED TREES. THE TREE AREAS TO BE SAVED SHALL BE ADEQUATELY PROTECTED FROM CONSTRUCTION EQUIPMENT BY THE CONTRACTOR IN A MANNER AS SHOWN ON THE DRAWINGS OR AS APPROVED BY THE ENGINEER.
4. AREAS TO BE EXCAVATED OR FILLED UPON SHALL BE STRIPPED OF GRASS, ROOTS, AND ANY UNSUITABLE MATERIAL, IF PRESENT, SHALL BE COMPLETELY REMOVED. STRIPPED MATERIALS SUITABLE FOR TOPSOIL SHALL BE RAKED TO REMOVE MATERIALS LARGER THAN 2 INCHES IN DIAMETER AND STOCKPILED ON-SITE, AS DIRECTED BY THE OWNER.
5. TIMBER, STUMPS, ROOTS, BRUSH, ROTTEN WOOD AND OTHER REFUSE AND UNSUITABLE MATERIALS FROM CLEARING, GRUBBING, AND STRIPPING OPERATIONS SHALL BE DISPOSED OF EITHER BY BURNING OR REMOVAL TO AN APPROVED LEGAL DUMPING AREA. BURNING ON-SITE IS PERMITTED PROVIDED THE CONTRACTOR OBTAINS ALL NECESSARY PERMITS AND PROVIDES COPIES TO THE OWNER. BURNING, IF PERMITTED, SHALL BE DONE AT LOCATIONS AND AT TIMES AS DIRECTED, IN A MANNER THAT WILL AVOID ALL HAZARDS SUCH AS DAMAGE TO EXISTING STRUCTURES, CONSTRUCTION PROGRESS, TREES AND VEGETATION, AND INTERFERENCE WITH TRAFFIC.
DISPOSAL BY BURNING SHALL BE KEPT UNDER CONSTANT ATTENDANCE UNTIL THE FIRES HAVE BURNED OUT OR HAVE BEEN EXTINGUISHED AND SHALL BE DONE IN COMPLIANCE WITH ALL STATE AND LOCAL LAWS AND REGULATIONS RELATIVE TO THE BUILDING OF FIRES.

3.02 PERFORMANCE
A. EXCAVATION
1. EXCAVATION SHALL CONFORM TO THE LIMITS INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN. THIS WORK SHALL INCLUDE ALL SHORING AND OTHER WORK NECESSARY IN BRINGING THE EARTHWORK TO THE REQUIRED GRADE, ALIGNMENT AND CROSS-SECTION.
2. ALL SUITABLE MATERIALS REMOVED FROM EXCAVATION AREAS SHALL BE USED AS FAR AS PRACTICABLE IN FUTURE PAVEMENT OR BUILDING AREAS, OR IN THE FORMATION OF EMBANKMENTS, SUBGRADES, SHOULDERS, BUILDING SITES AND OTHER PLACES AS SHOWN ON THE DRAWINGS, OR AS DIRECTED BY THE ENGINEER. ALL SUITABLE EXCAVATED MATERIAL SHALL BE CONSIDERED PROPERTY OF THE OWNER AND SHALL NOT BE REMOVED FROM THE PROPERTY WITHOUT PERMISSION OF THE OWNER. EXCESS EXCAVATED SUITABLE MATERIAL SHALL BE STOCKPILED ON-SITE AT A LOCATION APPROVED BY THE OWNER AND ENGINEER.
3. SUITABLE ON-SITE EXCAVATED MATERIALS CONTAINING SILTY, AND SLIGHTLY CLAYEY TO CLAYEY FINE SANDS SHALL BE SUFFICIENTLY DRIED BY SURFACE SPREADING AND DISCING IF NECESSARY, OR BY MIXING WITH CLEANER FINE SANDS PRIOR TO REUSE/PLACEMENT IN FILL AREAS, AS DIRECTED BY THE OWNER'S GEOTECHNICAL CONSULTANT.
4. EXISTING OR REMAINING SILTY AND SLIGHTLY CLAYEY TO CLAYEY FINE SAND MATERIALS, AS DETERMINED BY THE OWNER'S GEOTECHNICAL CONSULTANT, AT OR BELOW THE AREA OF THE BUILDING SLAB OR FOUNDATIONS SHALL BE REMOVED AND REPLACED (IF NECESSARY) TO A DEPTH OF 24-INCHES (MINIMUM), AS DIRECTED BY THE OWNER'S GEOTECHNICAL CONSULTANT, WITH SUITABLE COMPACTED STRUCTURAL MATERIALS.
5. MUCK, ORGANIC, SILTY AND CLAYEY SEDIMENTS, OR OTHER UNSUITABLE MATERIALS ENCOUNTERED UNDER FILL AREAS, STRUCTURES, PAVEMENT AREAS, UNDERGROUND UTILITIES AND/OR AS SHOWN ON THE DRAWINGS, SHALL BE EXCAVATED AND REMOVED AS DIRECTED BY THE OWNER'S GEOTECHNICAL CONSULTANT. REMOVAL OF UNSUITABLE MATERIAL IN AREAS WHERE BUILDINGS ARE TO BE CONSTRUCTED SHALL INCLUDE THE AREA UNDER THE BUILDING AND EXTEND TO A MINIMUM OF TEN (10) FEET BEYOND THE BUILDING LIMITS, OR AS DIRECTED BY THE ENGINEER. REMOVAL OF UNSUITABLE MATERIAL IN AREAS WHERE PAVEMENT IS TO BE PLACED SHALL INCLUDE THE AREA UNDER THE SURFACING AND EXTEND TO A MINIMUM OF FIVE (5) FEET BEYOND THE OUTSIDE EDGES, OR AS DIRECTED BY THE OWNER'S GEOTECHNICAL CONSULTANT. IN AREAS WHERE UNDERGROUND UTILITIES (PIPING, ETC.) ARE TO BE INSTALLED WITH A TOP (CROWN) ELEVATION ABOVE THE BOTTOM SURFACE OF ANY UNSUITABLE MATERIAL, REMOVAL SHALL BE COMPLETED TO A MINIMUM WIDTH OF THREE (3) FEET OUTSIDE THE UTILITY ALIGNMENT.
6. MUCK, ORGANIC, SILTY AND CLAYEY SEDIMENTS, AND OTHER UNSUITABLE MATERIAL EXCAVATED UNDER THE REQUIREMENTS OF THIS SECTION SHALL BE DISPOSED OF OFF-SITE, UNLESS OTHERWISE INDICATED ON THE DRAWINGS OR AS DIRECTED BY THE OWNER, AT THE CONTRACTOR'S EXPENSE.

B. FILLS AND COMPACTION
1. SUITABLE BACKFILL OR FILL MATERIAL SHALL BE PROVIDED, PLACED AND COMPACTED WHERE AND TO THE LIMITS SUITABLE MATERIAL IS OBTAINED AND AS REQUIRED TO PERFORM CONSTRUCTION AND ELEVATE THE SITE TO THE FINISH GRADES, AS SHOWN ON THE DRAWINGS. MATERIALS TO BE USED FOR FILL SHALL BE APPROVED BY THE OWNER'S GEOTECHNICAL CONSULTANT PRIOR TO THEIR PLACEMENT. IF A SUITABLE FILL MATERIAL SOURCE IS AVAILABLE WITHIN THE LIMITS OF THE PROJECT, THE OWNER MAY ALLOW THE USE THEREOF AND SHALL DESIGNATE THE BORROW SITE WHEREBY THE CONTRACTOR MAY ACQUIRE THE FILL. IF A SUITABLE FILL MATERIAL SOURCE IS NOT AVAILABLE ON THE PROJECT SITE; THE CONTRACTOR SHALL FURNISH THE NECESSARY ADDITIONAL SUITABLE FILL MATERIAL TO COMPLETE THE WORK TO THE LINES AND GRADES INDICATED ON THE DRAWINGS. OFF-SITE FILL SOURCES SHALL BE TESTED AND APPROVED BY THE OWNER'S GEOTECHNICAL CONSULTANT PRIOR TO MOVING ANY MATERIAL ON-SITE.
2. AREAS EXCAVATED TO BUILDING AND PAVEMENT SUBGRADE ELEVATIONS, AND EXCAVATED AREAS REQUIRED TO BE FILLED SHALL BE LEVELED, COMPACTED, AND TESTED PRIOR TO PLACEMENT OF FILL MATERIAL. COMPACTION SHALL BE BY MEANS OF A VIBRATING DRUM ROLLER OR BY OTHER SUITABLE METHODS CAPABLE OF COMPLETING THE WORK IN AN EFFICIENT MANNER. THE VIBRATORY DRUM ROLLER SHALL HAVE A- MINIMUM STATIC DRUM WEIGHT OF 20,000 POUNDS AND BE CAPABLE OF EXERTING A MINIMUM IMPACT ENERGY OF 36,000 POUNDS. SOFT, PUMPING, DISTURBED, UNSUITABLE OR YIELDING SOILS ENCOUNTERED DURING COMPACTION SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S GEOTECHNICAL CONSULTANT TO DETERMINE WHETHER OVER-EXCAVATION AND REPLACEMENT, OF ANY OF THESE TYPES OF MATERIALS IS REQUIRED. A MINIMUM OF 10 OVERLAPPING PASSES IN A CRISS-CROSS PATTERN SHALL BE MADE WITH THE VIBRATORY DRUM ROLLER TO INITIALLY COMPACT THE SUBJECT AREAS. COMPACTION SHALL CONTINUE UNTIL A MINIMUM DENSITY EQUIVALENT TO 95 PERCENT OF THE MAXIMUM MODIFIED PROCTOR DENSITY IS ACHIEVED IN ACCORDANCE WITH ASTM D-1557. COMPACTION SHALL BE TESTED FOR A MINIMUM DEPTH OF THREE (3) FOOT BELOW THE EXCAVATED OR STRIPPED SURFACE IN PAVEMENT AREAS, AND A MINIMUM OF THREE (3) FEET BELOW BUILDING AREAS.
3. THE BACKFILL AND FILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED HEREINAFTER. FILLS SHALL BE CONSTRUCTED OF APPROVED SUITABLE MATERIAL PLACED AT A MOISTURE CONTENT NEAR OPTIMUM IN SUCCESSIVE UNIFORM LIFTS OF NOT MORE THAN TWELVE (12) INCHES IN DEPTH LOOSE MEASURE, AND COMPACTED BY THE USE OF A VIBRATING STEEL WHEEL ROLLER AS DESCRIBED ABOVE, OR OTHER SUITABLE METHOD(S). THICKNESS OF LAYERS MAY BE INCREASED (TO NO GREATER THAN 18 INCHES LOOSE) PROVIDED THE EQUIPMENT AND METHODS USED ARE PROVEN BY FIELD DENSITY TESTING TO BE CAPABLE OF COMPACTING THICKER LAYERS TO SPECIFIED DENSITIES. LAYER THICKNESS SHALL BE DECREASED IF EQUIPMENT AND METHODS USED ARE PROVEN TO BE INCAPABLE OF COMPACTING LAYERS TO SPECIFIED DENSITIES. WHERE APPLICABLE, THE FIRST LIFT MAY BE UP TO EIGHTEEN (18) INCHES ABOVE THE GROUNDWATER TABLE, IF APPROVED BY THE OWNER'S GEOTECHNICAL EQUIPMENT. THE USE OF THIS PROCEDURE DOES NOT RELIEVE THE CONTRACTOR OF THE REQUIREMENT TO ACHIEVE THE SPECIFIED DENSITY FOR A MINIMUM DEPTH OF 1 OR 2 FEET BELOW THE NATURAL GRADE DEPENDING ON THE AREA.
4. FILLS SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 95 PERCENT OF ITS MAXIMUM MODIFIED PROCTOR DENSITY AS DETERMINED BY ASTM D-1557. THE SUBGRADE MATERIALS IMMEDIATELY BELOW THE BUILDING FLOOR SLAB, FOOTINGS, PAVEMENT BASE, SUBBASE, AND BASE SHALL BE RE-COMPACTED TO A MINIMUM OF 98 PERCENT OF ASTM D-1557 JUST PRIOR TO THE DARDEN CONCEPT BUILDING SLAB, FOOTING OR PAVEMENT SUBBASE CONSTRUCTION. SHOULD TESTS INDICATE UNSATISFACTORY RESULTS, COMPACTION PROCEDURES SHALL CONTINUE UNTIL SUBSEQUENT TESTS INDICATE THE STIPULATED REQUIREMENTS.
5. BACKFILL SOILS PLACED ADJACENT TO FOOTINGS OR WALLS BELOW GRADE SHALL BE CAREFULLY COMPACTED WITH A LIGHT RUBBER-TIRED ROLLER OR VIBRATORY PLATE COMPACTOR TO AVOID DAMAGING THE FOOTINGS OR WALLS AND SHALL BE COMPACTED TO 98 PERCENT OF ASTM D-1557 AROUND FOOTINGS (AND SLABS), AND TO 95 PERCENT OF ASTM D-1557 AGAINST BELOW GRADE WALLS. SUITABLE SAND FILLS PLACED IN FOOTING EXCAVATIONS ABOVE THE BEARING LEVEL AND IN OTHER AREAS WHICH ARE EXPECTED TO PROVIDE SUPPORT OR FOUNDATION EMBEDMENT CONSTRAINT (INCLUDING ALL PIPELINE OR UTILITY EXCAVATIONS WITHIN THE STRUCTURE AND PAVEMENT AREAS), SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 12 INCHES AND SHALL BE COMPACTED TO A MINIMUM OF 98 PERCENT OF THE MAXIMUM MODIFIED PROCTOR DRY DENSITY (ASTMD-1557).
6. SUITABLE FILL MATERIALS CONTAINING SILTY, SLIGHTLY CLAYEY TO CLAYEY FINE SAND MATERIALS WHICH EXHIBIT CHARACTERISTICS OF HIGH PLASTICITY OR WETNESS, SPONGINESS AND/OR UNSTABLE BEHAVIOR SHALL BE SUFFICIENTLY AIR-DRIED OR ADEQUATELY MIXED WITH CLEANER FINE SANDS PRIOR TO USE FOR FILL. PLACEMENT OF THESE MATERIALS IN FILL AREAS SHALL BE DIRECTED BY THE OWNER'S GEOTECHNICAL CONSULTANT, AND SUCH FILL MATERIALS SHALL BE POSITIONED WITHIN LOWER LIFT LEVELS OF HIGH FILL AREAS, WITH A TOP ELEVATION A MINIMUM OF FOUR (4) FEET BELOW ANY PROPOSED PAVEMENT SURFACE OR STRUCTURE FOUNDATION OR SLAB, UNLESS OTHERWISE APPROVED BY THE OWNER'S GEOTECHNICAL CONSULTANT.
7. FINE SANDS TO SLIGHTLY SILTY FINE SANDS CLASSIFIED AS SUITABLE FILL MATERIALS, AS DETERMINED BY THE OWNER'S GEOTECHNICAL CONSULTANT, EXCAVATED FROM ON-SITE AREAS SHALL BE PLACED IN THE UPPER LEVELS IN ALL FILL AREAS.
8. THE PRECEDING SPECIFIED PLACEMENT AND COMPACTION SHALL BE REQUIRED WITHIN THE SPECIFIED AREAS, AND TO THE DEPTHS DESCRIBED AS FOLLOWS:
A. STRUCTURES (FOUNDATIONS AND SLABS): UNDER THE COMPLETE STRUCTURE AND TO A DIMENSION TEN (10) FEET OUTSIDE THE MAXIMUM PERIMETER OF THE STRUCTURE; FROM THE PRE-COMPACTED SURFACE UP TO AN ELEVATION SPECIFICALLY REQUIRED FOR PLACEMENT OF THE STRUCTURE SLAB OR FOUNDATION.
B. PAVEMENT: THE FULL AREA BENEATH THE SURFACING AND EXTENDING FIVE (5) FEET BEYOND THE OUTSIDE EDGES THEREOF; FROM THE SURFACE OF APPROVED CLEAN IN-PLACE SOIL UP TO THE BOTTOM ELEVATION OF THE BASE OR SUBBASE COURSE. SOIL MATERIAL WITHIN 18 INCHES OF THE BOTTOM OF THE SUBBASE COURSE, WHETHER IN SITU OR FILLED MATERIAL, SHALL HAVE NOT MORE THAN 12 PERCENT BY WEIGHT OF MATERIAL PASS THE U.S. NO. 200 SIEVE.
C. SIDEWALKS: FOR A WIDTH THREE (3) FEET BEYOND EACH SIDE OF THE WALK; FROM THE SURFACE OF APPROVED CLEAN IN-PLACE SOIL TO THE FINISH GRADE.
D. UTILITIES (PIPING, ETC.): FOR A WIDTH THREE (3) FEET BEYOND EACH SIDE OF THE UTILITY; FROM THE SURFACE OF APPROVED CLEAN IN-PLACE SOIL TO THE FINISH GRADE.
9. IN AREAS OF FILL PLACEMENT REQUIRING GREATER THAN FOUR FEET OR MORE OF STRUCTURAL FILL (WHERE BUILDING STRUCTURES OR PAVEMENT ARE PROPOSED), THE COMPLETED FILL AREA SHALL BE ALLOWED TO SETTLE FOR A PERIOD OF NOT LESS THAN 60 DAYS PRIOR TO CONSTRUCTION OF THE BUILDING FOUNDATION CONSTRUCTION OR CONSTRUCTION OF THE PAVEMENT BASE OR SUBBASE COURSE. SETTLEMENT PLATES SHALL BE INSTALLED BY THE OWNER'S GEOTECHNICAL CONSULTANT FOR MONITORING PURPOSES IN HIGHER FILL AREAS.
10. THE CONTRACTOR SHALL MAINTAIN THE SURFACE OF THE FILL TO PREVENT PONDING OR COLLECTION OF SURFACE RUNOFF AND SUBSEQUENT SATURATION OF COMPACTED OR UNCOMPACTED LAYERS. WHEN INCLEMENT WEATHER CAN REASONABLY BE EXPECTED DURING OFF-SHIFT HOURS, ANY UNCOMPACTED LAYER SHALL BE ROLLED TO PROVIDE A SURFACE SEAL. DURING PERIODS OF INCLEMENT WEATHER, THE CONTRACTOR SHALL CONTROL SURFACE RUNOFF IN SUCH A MANNER AS TO PREVENT EROSION OF THE FILL OR SLOPE SURFACES.
11. SHOULD SUITABLE EXCAVATED MATERIAL EXCEED THE BACKFILL AND FILL REQUIREMENTS, SAID EXCESS SUITABLE FILL SHALL BE HAULED OFF SITE TO A LOCATION APPROVED BY THE OWNER.
12. SOME TYPES OF EXCAVATED UNSUITABLE MATERIAL MAY BE ADEQUATELY MIXED WITH SUITABLE FILL MATERIAL AND MAY BE USED IN OPEN AREAS OF THE PROJECT IF APPROVED IN WRITING BY THE OWNER'S GEOTECHNICAL CONSULTANT AND ENGINEER. UNSUITABLE MATERIAL TO BE MIXED SHALL BE RAKED TO REMOVE ALL MATERIALS LARGER THAN TWO (2) INCHES IN DIAMETER PRIOR TO MIXING. IN NO CASE SHALL SUCH MIXED MATERIAL BE USED TO FILL UNDER STRUCTURES, PAVEMENTS, SIDEWALKS OR UTILITIES. THE EXTENT OF MIXING AND SUITABILITY OF THE MATERIAL TO BE MIXED SHALL BE APPROVED BY THE OWNER'S GEOTECHNICAL CONSULTANT AND THE ENGINEER.
13. MIXED FILL MATERIAL, AS SPECIFIED ABOVE, SHALL BE PLACED IN LAYERS OF NOT MORE THAN 12 INCHES IN DEPTH MEASURED LOOSE. WHEN DRY OR AS DIRECTED BY THE TESTING LABORATORY OR ENGINEER, THIS LAYER SHALL BE DISCED AND HARROWED TO BREAK UP LARGE PIECES OF THE MATERIAL. THE ABOVE DENSITY REQUIREMENTS SHALL NOT APPLY TO UNSUITABLE MATERIAL PLACED.

C. GRADING
1. GRADING SHALL BE PERFORMED OVER THE TOTAL CONSTRUCTION AREA, AS INDICATED ON THE DRAWINGS. THIS WORK SHALL INCLUDE ALL CUTTING AND FILLING NECESSARY IN ORDER TO COMPLY WITH THE ELEVATIONS SHOWN ON THE DRAWINGS.
2. THE FINAL FINISH GRADING SHALL PROVIDE A SURFACE, WHICH IS WITHIN 0.1 FOOT OF THE REQUIRED ELEVATIONS SHOWN ON THE DRAWINGS, UNLESS OTHERWISE APPROVED BY THE ENGINEER. FINISHED GRADES SHALL BE UNIFORM BETWEEN FINAL CONTOURS, AND SHALL NOT INCLUDE ABRUPT CHANGES IN GRADE, POTHOLES, OR ERODED AREAS. WHERE GRADING MEETS WITH THE EXISTING SURFACE, A SMOOTH INTERFACE SHALL BE PROVIDED. ROUNDINGS SHALL BE PROVIDED AT THE TOP AND BOTTOM OF EMBANKMENTS, DIKES OR OTHER BREAKS IN GRADE. AROUND BUILDINGS AND OTHER STRUCTURES, THE FINISH GRADE SHALL SLOPE AWAY FROM WALLS IN ALL DIRECTIONS AT ¼-INCH PER FOOT MINIMUM FOR AT LEAST TEN (10) FEET. ALLOWANCE SHALL BE MADE IN FINISH GRADING ELEVATIONS FOR SODDING OR OTHER SURFACE TREATMENT, AS INDICATED ON THE DRAWINGS.

END OF SECTION

SECTION 02220
STRUCTURE EXCAVATION AND BACKFILL

PART 1.00 GENERAL

1.01 WORK INCLUDED
A. THE WORK SPECIFIED IN THIS SECTION CONSISTS OF FURNISHING ALL LABOR, MATERIALS AND EQUIPMENT, AND PERFORMING ALL OPERATIONS REQUIRED TO COMPLETE THE SITE PREPARATION, EARTHWORK AND GRADING AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN FOR CONSTRUCTION OF THE STORM DRAINAGE, SANITARY SEWER, AND WATER DISTRIBUTION SYSTEM STRUCTURES. THIS WORK SHALL INCLUDE, BUT NOT BE LIMITED TO SITE CLEARING AND GRUBBING; STRIPPING; DEWATERING; REMOVAL OF MUCK AND OTHER UNSUITABLE MATERIAL; EARTHWORK FOR GRADING AROUND STRUCTURES; EXCAVATION; BACKFILLING; COMPACTION; SUPPLYING APPROVED FILL MATERIAL; FINAL GRADING; AND OTHER RELATED REQUIREMENTS.
B. THE OPERATIONS SPECIFIED HEREIN SHALL BE PERFORMED WITHIN THE LIMITS INDICATED FOR SITE GRADING AND OTHER CONSTRUCTION, AS SHOWN ON THE DRAWINGS.
C. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION AGAINST CONSTRUCTION ACTIVITY FOR ALL EXISTING STRUCTURES AND UTILITIES, ABOVE THE SURFACE OR UNDERGROUND, INCLUDING TREES THAT ARE TO REMAIN, AND OTHER CONSTRUCTION ACTIVITIES CONCURRENTLY OCCURRING ON THE SITE.
D. SHOULD DAMAGE OCCUR TO ANY STRUCTURE, UTILITY OR OTHER FACILITY FROM THESE CONSTRUCTION ACTIVITIES, REPAIR OR REPLACEMENT TO A CONDITION EQUAL OR BETTER THAN THE ORIGINAL SHALL BE IMMEDIATELY MADE BY THE CONTRACTOR, AT NO COST TO THE OWNER.
E. DEFINITIONS:
1. MAXIMUM DENSITY: MAXIMUM WEIGHT IN POUNDS PER CUBIC FOOT OF A SPECIFIC MATERIAL AS DETERMINED BY ASTM TEST DESIGNATION D-1557.
2. OPTIMUM MOISTURE: PERCENTAGE OF WATER IN A SPECIFIC MATERIAL AT MAXIMUM DENSITY.

1.02 RELATED WORK
A. SECTION 02210 - SITE EARTHWORK
B. SECTION 02221 - TRENCHING, BACK-FILLING AND COMPACTION FOR UTILITY AND DRAINAGE SYSTEMS
C. SECTION 2530 - DEWATERING SYSTEM

1.03 REFERENCE INFORMATION
A. IF A GEOTECHNICAL REPORT PERTAINING TO THE SITE HAS BEEN PREPARED, IT MAY BE OBTAINED FROM THE ENGINEER UPON REQUEST.
B. CONTRACTOR MAY OBTAIN COPIES OF STANDARD SPECIFICATIONS FROM THE CITY, AT HIS OWN EXPENSE, FOR REQUIREMENTS OF RELATED STANDARDS.

1.04 QUALITY ASSURANCE
A. DENSITY TESTS TO ADEQUATELY CONFIRM THE SPECIFIED COMPACTION SHALL BE MADE BY A TESTING LABORATORY APPROVED BY THE OWNER, AT THE EXPENSE OF THE OWNER, WITH REPORTS THEREFROM SUBMITTED TO THE OWNER DOCUMENTING THAT THE COMPACTION REQUIREMENTS AS OUTLINED IN THIS SPECIFICATION HAVE BEEN SATISFIED. IF INITIAL DENSITY TESTS FAIL TO MEET THE SPECIFICATIONS, RETESTING SHALL BE DONE AT THE EXPENSE OF THE CONTRACTOR. SAID TESTS SHALL BE PERFORMED

SECTION 02221

TRENCHING, BACKFILLING AND COMPACTION FOR UTILITY AND DRAINAGE SYSTEMS

PART 1.00 GENERAL

1.01 WORK INCLUDED

A. THE WORK SPECIFIED IN THIS SECTION CONSISTS OF FURNISHING ALL LABOR, MATERIALS AND EQUIPMENT, AND PERFORMING ALL OPERATIONS REQUIRED TO COMPLETE THE SITE PREPARATION, EARTHWORK AND GRADING AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN FOR CONSTRUCTION OF THE UTILITY AND DRAINAGE SYSTEMS CONSISTING OF PIPING AND APPURTENANCES. THIS WORK SHALL INCLUDE, BUT NOT BE LIMITED TO: SITE CLEARING AND GRUBBING; STRIPPING; DEWATERING; TRENCHING; BED PREPARATION; REMOVAL OF MUCK AND OTHER UNSUITABLE MATERIAL; EARTHWORK FOR GRADING ABOVE AND AROUND UTILITY AND DRAINAGE SYSTEM IMPROVEMENTS; EXCAVATION; BACKFILLING; COMPACTION; SUPPLYING APPROVED FILL MATERIAL; FINAL SITE GRADING; AND OTHER RELATED REQUIREMENTS.

B. THE OPERATIONS SPECIFIED HEREIN SHALL BE PERFORMED WITHIN THE LIMITS INDICATED FOR SITE GRADING AND OTHER CONSTRUCTION, AS SHOWN ON THE DRAWINGS.

C. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION AGAINST CONSTRUCTION ACTIVITY FOR ALL EXISTING STRUCTURES AND UTILITIES, ABOVE THE SURFACE OR UNDERGROUND, INCLUDING TREES THAT ARE TO REMAIN, AND OTHER CONSTRUCTION ACTIVITIES CONCURRENTLY OCCURRING ON THE SITE.

D. SHOULD DAMAGE OCCUR TO ANY STRUCTURE, UTILITY OR OTHER FACILITY FROM THESE CONSTRUCTION ACTIVITIES, REPAIR OR REPLACEMENT TO A CONDITION EQUAL OR BETTER THAN THE ORIGINAL SHALL BE IMMEDIATELY MADE BY THE CONTRACTOR, AT NO COST TO THE OWNER.

E. DEFINITIONS:

1. MAXIMUM DENSITY: MAXIMUM WEIGHT IN POUNDS PER CUBIC FOOT OF A SPECIFIC MATERIAL AS DETERMINED BY ASTM TEST DESIGNATION D-1557.

2. OPTIMUM: MOISTURE: PERCENTAGE OF WATER IN A SPECIFIC MATERIAL AT MAXIMUM DENSITY.

1.02 RELATED WORK

A. SECTION 02210 – SITE EARTHWORK

B. SECTION 02220 – STRUCTURE EXCAVATION AND BACKFILL

C. SECTION 02530 – DEWATERING SYSTEM

1.03 REFERENCE, INFORMATION

A. CONTRACTOR MAY OBTAIN THE GEOTECHNICAL REPORT(S) PERTAINING TO THE SITE FROM THE OWNER.

B. CONTRACTOR MAY OBTAIN A COPY OF STANDARD SPECIFICATIONS FROM THE CITY, AT HIS OWN EXPENSE, FOR REQUIREMENTS OF RELATED STANDARDS.

1.04 QUALITY ASSURANCE

A. DENSITY TESTS TO ADEQUATELY CONFIRM THE SPECIFIED COMPACTION SHALL BE MADE BY A TESTING LABORATORY APPROVED BY THE ENGINEER, AT THE EXPENSE OF THE OWNER, WITH REPORTS THEREFROM SUBMITTED TO THE ENGINEER DOCUMENTING THAT THE COMPACTION REQUIREMENTS AS OUTLINED IN THIS SPECIFICATION HAVE BEEN SATISFIED. IF INITIAL DENSITY TESTS FAIL TO MEET THE SPECIFICATIONS, RETESTING SHALL BE DONE AT THE EXPENSE OF THE CONTRACTOR. SAID TESTS SHALL BE PERFORMED FOR EACH LIFT OF FILL, IF MORE THAN ONE IS REQUIRED FOR THE DEPTH OF FILL, AND SHALL BE TAKEN WHERE DIRECTED BY THE ENGINEER. SHOULD TEST RESULTS BE UNSATISFACTORY, THE CONTRACTOR SHALL RECOMPACT THE FILL AND PROVIDE SUPPLEMENTAL TESTS FOR THE AREA IN QUESTION.

B. A SUFFICIENT TIME SHALL BE ALLOTTED FOR THE TESTING LABORATORY TO PERFORM ALL CONTROL TESTS NECESSARY TO DETERMINE THAT PROPER FILL MATERIAL IS BEING USED AND COMPACTION IS BEING OBTAINED. THE CONTRACTOR SHALL SCHEDULE BACKFILLING OPERATIONS SO AS TO PERMIT THE MAKING OF THE NECESSARY CONTROL TESTS FOR EACH LAYER PRIOR TO THE PLACING OF SUBSEQUENT LAYERS.

PART 2.00 PRODUCTS

2.01 MATERIALS

A. SUITABLE MATERIALS FOR FILLS SHALL BE CLASSIFIED AS A-1, A-3, A-2-4, OR A-2-6 IN ACCORDANCE, WITH AASHTO DESIGNATION M-145 AND SHALL BE FREE FROM VEGETATION, ORGANIC MATERIAL, DEBRIS, TRASH, ROOTS AND SIMILAR DELETERIOUS MATERIAL. SUITABLE MATERIALS FOR IMPORTED FILLS SHALL BE CLASSIFIED AS A-1 OR A-3 IN ACCORDANCE WITH AASHTO DESIGNATION M-145 AND SHALL CONSIST OF CLEAN, GRANULAR SOILS AND BE FREE FROM VEGETATION, ORGANIC MATERIAL, DEBRIS, TRASH, ROOTS AND SIMILAR DELETERIOUS MATERIAL. NOT MORE THAN 15 PERCENT BY WEIGHT OF FILL MATERIAL SHALL PASS THE U.S. NO. 200 SIEVE.

B. SUITABLE MATERIAL TO BE PLACED IN WATER: SUITABLE MATERIAL FOR FILL TO BE PLACED IN WATER SHALL BE CLASSIFIED AS A-1 OR A-3 IN ACCORDANCE WITH AASHTO DESIGNATION M-145. NOT MORE THAN 15 PERCENT BY WEIGHT OF FILL MATERIAL SHALL PASS THE U.S. NO. 100 SIEVE.

C. UNSUITABLE MATERIALS ARE CLASSIFIED AS A-2-5, A-2-7, A-4, A-5, A-6, A-7 AND A-8 IN ACCORDANCE WITH AASHTO DESIGNATION M-145.

D. GRANULAR BACKFILL MATERIAL: MATERIAL FOR BACKFILL BELOW PRECAST STRUCTURES SHALL BE CONFORM TO STATE DOT SPECIFICATIONS.

PART 3.00 EXECUTION

3.01 PREPARATION

A. CLEARING, GRUBBING, AND STRIPPING

CLEARING, GRUBBING, AND STRIPPING SHALL BE PERFORMED IN THE AREAS WHERE REQUIRED FOR PROPER INSTALLATION OF ALL PIPING AND APPURTENANCES AT LOCATIONS SHOWN ON THE DRAWINGS. IT SHALL INCLUDE THE COMPLETE REMOVAL AND SATISFACTORY DISPOSAL OF ALL TIMBERS, BRUSH, STUMPS, WEEDS, RUBBISH, TOPSOIL, AND ALL OTHER OBSTRUCTIONS RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE EXISTING GROUND.

B. SELECTIVE CLEARING SHALL BE PERFORMED IN AREAS SHOWN ON THE DRAWINGS OR AS REQUIRED BY THE OWNER, IN ORDER TO SAVE PLANTINGS, SHRUBBERY, TREES, UTILITY POLES, OR STRUCTURES. THE ABOVE ITEMS, WHERE DESIGNATED BY THE OWNER OR ENGINEER, SHALL BE TRANSPLANTED,

RELOCATED, BRACED, SHORED, OR OTHERWISE PROTECTED AND PRESERVED.

3.02 PERFORMANCE

A. EXCAVATION:

1. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DIMENSIONS AND DEPTH SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.

ALL EXCAVATIONS SHALL BE MADE, BY OPEN CUT, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS. ALL EXISTING UTILITIES SUCH AS PIPES, POLES AND STRUCTURES SHALL BE CAREFULLY SUPPORTED AND PROTECTED FROM INJURY, AND IN CASE OF DAMAGE, THEY SHALL BE RESTORED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

2. WHERE TRENCH WIDTHS ARE LIMITED BY RIGHT-OF-WAY AND/OR EASEMENT WIDTHS, PROPERTY LINE RESTRICTIONS, EXISTING ADJACENT IMPROVEMENTS, OR OTHER RESTRICTIONS, TRENCH WALLS SHALL BE KEPT VERTICAL, AND, IF REQUIRED TO PROTECT THE SAFETY OF WORKMEN, THE GENERAL PUBLIC, THIS OR OTHER WORK OR STRUCTURES, OR TO MAINTAIN TRENCH WIDTHS SPECIFIED ON THE DRAWINGS OR HEREINAFTER SPECIFIED, SHALL BE PROPERLY SHEETED AND BRACED. WHERE WOOD SHEETING OR CERTAIN DESIGNS OF STEEL SHEETING ARE USED, THE SHEETING SHALL BE CUT OFF AT A LEVEL 2 FEET ABOVE THE TOP OF THE INSTALLED PIPE AND THAT PORTION BELOW THAT LEVEL SHALL BE LEFT IN PLACE. IF INTERLOCKING STEEL SHEETING IS USED, IT MAY BE REMOVED, PROVIDING REMOVAL CAN BE ACCOMPLISHED WITHOUT DISTURBING THE BEDDING, PIPE OR ALIGNMENT OF THE PIPE. ANY DAMAGE TO THE PIPE BEDDING, PIPE OR ALIGNMENT OF THE CONSTRUCTED UTILITY CAUSED BY REMOVAL OF SHEETING SHALL BE CAUSE FOR REJECTION OF THE AFFECTED PORTION OF THE WORK. NOT MORE THAN 100 FEET OF TRENCH SHALL BE OPENED AHEAD OF PIPE LAYING OPERATIONS AT ONE TIME UNLESS A GREATER LENGTH OF OPEN TRENCH IS APPROVED BY THE ENGINEER.

3. IN AREAS WHERE TRENCH WIDTHS ARE NOT LIMITED BY RIGHT-OF-WAY, AND/OR EASEMENT WIDTHS, PROPERTY LINE RESTRICTIONS, EXISTING ADJACENT IMPROVEMENTS, INCLUDING PAVEMENTS, STRUCTURES AND OTHER UTILITIES, AND MAINTENANCE OF TRAFFIC, THE TRENCH SIDES MAY BE SLOPED TO A STABLE ANGLE OF REPOSE OF THE EXCAVATED MATERIAL. A SUBSTANTIALLY AND SAFELY CONSTRUCTED MOVABLE SHIELD, "BOX" OR "MOLE" MAY BE USED IN PLACE OF SHEETING WHEN THE TRENCH IS OPENED IMMEDIATELY AHEAD OF THE SHIELD AND CLOSED IMMEDIATELY BEHIND THE SHIELD AS PIPE LAYING PROCEEDS INSIDE THE SHIELD.

4. LADDERS OR STEPS SHALL BE PROVIDED FOR AND USED BY WORKMEN TO ENTER AND LEAVE TRENCHES.

5. PIPE TRENCHES FOR UTILITY LINES SHALL BE EXCAVATED TO A WIDTH WITHIN THE LIMITS OF THE TOP OF THE PIPE AND THE TRENCH BOTTOM SO AS TO PROVIDE A CLEARANCE ON EACH SIDE OF THE PIPE BARREL, MEASURED TO THE FACE OF THE EXCAVATION OR SHEETING, IF USED, OF 8 INCHES TO 12 INCHES. WHERE THE PIPE SIZE EXCEEDS 12 INCHES, THE CLEARANCE SHALL BE FROM 12 INCHES TO 18 INCHES. ALL PIPE TRENCHES SHALL BE EXCAVATED TO A LEVEL 8 INCHES BELOW THE OUTSIDE BOTTOM OF THE PROPOSED PIPE BARREL.

6. EXCAVATION FOR APPURTENANCES SHALL BE SUFFICIENT TO PROVIDE A CLEARANCE BETWEEN THEIR OUTER SURFACES AND THE FACE OF THE EXCAVATION OR SHEETING, IF USED, OF NOT LESS THAN 12 INCHES. MANHOLE EXCAVATIONS SHALL BE CARRIED TO SUFFICIENT DEPTH TO PERMIT THEIR CONSTRUCTION ON THE UNDISTURBED BOTTOM OF THE EXCAVATION.

7. MATERIALS REMOVED FROM THE TRENCHES SHALL BE STORED AND DISPOSED OF IN SUCH A MANNER THAT THEY WILL NOT INTERFERE UNDULY WITH TRAFFIC ON PUBLIC STREETS AND SIDEWALKS AND THEY SHALL NOT BE PLACED ON PRIVATE PROPERTY. IN CONGESTED AREAS, SUCH MATERIALS THAT CANNOT BE STORED ADJACENT TO THE TRENCH OR USED IMMEDIATELY AS BACKFILL, SHALL BE REMOVED TO PLACES OF STORAGE, AS APPROVED BY THE ENGINEER.

8. ALL MATERIALS SUITABLE FOR USE AS BACKFILL SHALL BE HAULED TO AND USED IN AREAS WHERE NOT ENOUGH SUITABLE MATERIAL IS AVAILABLE FROM THE EXCAVATION.

9. ALL EXCESS SUITABLE OR UNSUITABLE MATERIAL SHALL BE DISPOSED OF AS DIRECTED BY THE ENGINEER. MATERIAL DISPOSED OF WITHIN THE LIMITS OF THE PROJECT SHALL BE FINISH GRADED UPON COMPLETION OF THE WORK. MATERIAL TO BE REMOVED FROM THE PROJECT SHALL BE HAULED AWAY AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

10. TRENCH STABILIZATION: NO CLAIM FOR EXTRAS, OR ADDITIONAL PAYMENT WILL BE CONSIDERED FOR COST INCURRED IN THE STABILIZATION OF TRENCH BOTTOMS WHICH ARE RENDERED SOFT OR UNSTABLE AS A RESULT OF CONSTRUCTION METHODS, SUCH AS IMPROPER OR INADEQUATE

SHEETING, DEWATERING OR OTHER CAUSES. IN NO EVENT SHALL PIPE BE INSTALLED WHEN SUCH CONDITIONS EXIST AND THE CONTRACTOR SHALL CORRECT SUCH CONDITIONS SO AS TO PROVIDE PROPER BEDDING OR FOUNDATIONS FOR THE PROPOSED INSTALLATIONS AT NO ADDITIONAL COST TO THE OWNER.

B. REMOVAL OF WATER:

1. IT IS A BASIC REQUIREMENT OF THESE SPECIFICATIONS THAT EXCAVATIONS SHALL BE FREE FROM WATER BEFORE PIPE OR STRUCTURES ARE INSTALLED.

2. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PUMPS, UNDERDRAINS, WELL-POINT SYSTEMS, AND OTHER MEANS FOR REMOVING WATER FROM TRENCHES AND OTHER PARTS OF THE WORK. THE CONTRACTOR SHALL CONTINUE DEWATERING OPERATIONS UNTIL THE BACKFILL HAS PROGRESSED TO A SUFFICIENT DEPTH OVER THE PIPE TO PREVENT FLOTATION OR MOVEMENT OF THE PIPE IN THE TRENCH AND SO THAT IT IS ABOVE THE NATURAL WATER TABLE.

3. WATER FROM THE TRENCHES AND EXCAVATION SHALL BE DISPOSED OF IN SUCH A MANNER AS WILL NOT CAUSE INJURY TO PUBLIC HEALTH, TO PUBLIC OR PRIVATE PROPERTY, TO THE WORK COMPLETED OR IN PROGRESS, TO THE SURFACE OF THE STREETS, OR CAUSE ANY INTERFERENCE WITH THE USE OF THE SAME BY THE PUBLIC. THE CONTRACTOR SHALL SUBMIT HIS PROPOSED METHODS OF HANDLING TRENCH WATER AND LOCATIONS AT WHICH THE WATER WILL BE DISPOSED OF TO THE ENGINEER FOR APPROVAL AND SHALL RECEIVE APPROVAL BEFORE STARTING THE EXCAVATION. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL ADDITIONAL REQUIRED PERMITS FROM STATE OR LOCAL AGENCIES FOR DEWATERING ACTIVITIES.

4. PUMPS AND ENGINES FOR DEWATERING SYSTEMS SHALL BE OPERATED WITH MUFFLERS AND AT A MINIMUM NOISE LEVEL SUITABLE TO A RESIDENTIAL AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NUISANCE CREATED DUE TO THE DISPOSAL OF WATER FROM HIS DRAINAGE SYSTEM.

C. PIPE BEDDING:

1. AS DESCRIBED ABOVE, ALL PIPE TRENCHES SHALL BE EXCAVATED TO A LEVEL 8 INCHES BELOW THE OUTSIDE BOTTOM OF THE PROPOSED PIPE BARREL FOR RIGID PIPE AND UP TO 4 INCHES ABOVE CROWN FOR FLEXIBLE (ADS OR SIMILAR) PIPE. THE RESULTING EXCAVATION SHALL BE BACKFILLED WITH APPROVED PIPE BEDDING MATERIAL, UP TO THE LEVEL OF THE LOWER ONE-THIRD OF THE PROPOSED PIPE BARREL. THIS BACKFILL SHALL BE TAMPED AND COMPACTED TO PROVIDE PROPER BEDDING FOR THE PIPE AND SHALL THEN BE SHAPED TO RECEIVE THE PIPE. BEDDING SHALL BE PROVIDED UNDER THE BRANCH OF ALL FITTINGS TO FURNISH ADEQUATE SUPPORT AND BEARING UNDER THE FITTING. BEDDING MATERIAL FOR PIPING SHALL BE PEA ROCK, DRAINFIELD LIMEROCK, OR SIMILAR MATERIALS AS APPROVED BY THE ENGINEER. LIMEROCK SCREENINGS, SAND OR OTHER SUITABLE MATERIAL FROM THE EXCAVATION MAY BE USED FOR BEDDING MATERIAL WHEN PIPE IS INSTALLED ABOVE THE NATURAL WATER TABLE.

2. ANY EXCAVATION BELOW THE LEVELS REQUIRED FOR INSTALLATION OF THE PIPE BEDDING SHALL BE BACKFILLED WITH APPROVED BEDDING MATERIAL PROVIDED BY THE CONTRACTOR, TAMPED, COMPACTED AND SHAPED TO PROVIDE PROPER SUPPORT FOR THE PROPOSED PIPE, AT NO ADDITIONAL COST TO THE OWNER.

D. BACKFILLS AND COMPACTION

1. BACKFILLING OF TRENCHES SHALL NOT BE ALLOWED UNTIL THE WORK HAS BEEN APPROVED BY THE ENGINEER, PRESSURE TESTED IF REQUIRED, AND THE ENGINEER INDICATES THAT BACKFILLING MAY PROCEED. ANY WORK WHICH IS COVERED OR CONCEALED WITHOUT THE KNOWLEDGE AND CONSENT OF THE ENGINEER SHALL BE UNCOVERED OR EXPOSED FOR INSPECTION AT NO COST TO THE OWNER. PARTIAL BACKFILL MAY BE MADE TO RESTRAIN THE PIPE DURING PRESSURE TESTING.

2. BACKFILL MATERIAL SHALL BE SUITABLE MATERIAL AS DESCRIBED HEREIN. BACKFILL MATERIAL PLACED WITHIN 1 FOOT OF PIPING AND APPURTENANCES SHALL NOT CONTAIN ANY STONES OR ROCKS LARGER THAN 2 INCHES IN DIAMETER (1 INCH FOR PVC PIPE) AND NO STONES OR ROCKS LARGER THAN 6 INCHES IN DIAMETER WILL BE PERMITTED IN ANY BACKFILL.

3. IF A SUFFICIENT QUANTITY OF SUITABLE BACKFILL MATERIAL IS NOT AVAILABLE FROM THE TRENCH OR OTHER EXCAVATIONS WITHIN THE SITE OF THE WORK, THE CONTRACTOR SHALL PROVIDE ADDITIONAL MATERIAL SUITABLE FOR THIS PURPOSE. THE ADDITIONAL MATERIAL SHALL BE INSTALLED AS SPECIFIED HEREIN.

4. SUITABLE BACKFILL MATERIAL CONTAINING NO STONES OR ROCKS LARGER THAN 2 INCHES SHALL BE PLACED IN 6-INCH LAYERS AND THOROUGHLY TAMPED TO A DEPTH OF 12 INCHES OVER THE PIPE. SPECIAL AND PARTICULAR ATTENTION AND CARE SHALL BE EXEROISED IN OBTAINING THOROUGH SUPPORT FOR THE BRANCH OF ALL SERVICE CONNECTION FITTINGS AND COMPACTION OF THE FILL UNDER THE HAUNCHES OF THE PIPE. CARE SHALL BE TAKEN TO PRESERVE THE ALIGNMENT AND GRADIENT OF THE INSTALLED PIPE.

5. AFTER THE BACKFILL HAS BEEN PLACED TO A LEVEL 12 INCHES OVER THE WATERLINE OR FORCE MAIN PIPE, THE REMAINDER OF THE BACKFILL SHALL BE PLACED IN LAYERS, NOT TO EXCEED 12 INCHES, AND COMPACTED WITH MECHANICAL VIBRATORS OR OTHER SUITABLE EQUIPMENT, TO OBTAIN A DENSITY OF THE BACKFILLED MATERIAL OF NOT LESS THAN 98 PERCENT OF ITS MAXIMUM DENSITY AS HEREINAFTER DEFINED.

6. AFTER SELECTED BACKFILL HAS BEEN PLACED TO A DEPTH OF 12 INCHES OVER THE STORM DRAINAGE AND SANITARY SEWER PIPE, BACKFILLING SHALL PROCEED TO A DEPTH OF 30 INCHES OVER THE PIPE BY PLACING THE BACKFILL MATERIAL IN 9-INCH LAYERS AND THOROUGHLY COMPACTING IT WITH MECHANICAL VIBRATORS. BACKFILL IN THIS PORTION OF THE WORK SHALL BE COMPACTED TO 95 PERCENT OF MAXIMUM DENSITY OF THE MATERIAL AS HEREINAFTER DEFINED.

7. AFTER THE BACKFILL HAS BEEN PLACED TO A LEVEL 30 INCHES OVER THE STORM DRAINAGE AND SANITARY SEWER PIPE, THE REMAINDER OF THE BACKFILL SHALL BE PLACED IN LAYERS, NET TO EXCEED 12 INCHES, AND COMPACTED WITH MECHANICAL VIBRATORS OR OTHER SUITABLE EQUIPMENT TO OBTAIN A DENSITY OF THE BACKFILLED MATERIAL OF NOT LESS THAN 95 PERCENT OF ITS MAXIMUM DENSITY AS HEREINAFTER DEFINED.

8. FOR STORM DRAINAGE AND SANITARY SEWER PIPE IN UNPAVED AREAS OUTSIDE THE RIGHT-OF-WAY, THE BACKFILL SHALL BE PLACED TO A LEVEL 36 INCHES ABOVE THE CROWN OF THE PIPE BY PLACING THE BACKFILL MATERIAL IN 9 INCH LAYERS AND COMPACTED TO A MINIMUM DENSITY OF 95 PERCENT OF ITS MAXIMUM DENSITY, AS HEREINAFTER DEFINED. THE REMAINING BACKFILL SHALL BE PLACED IN LAYERS OF NOT MORE THAN 12 INCHES AND COMPACTED TO A MINIMUM DENSITY OF 95 PERCENT OF ITS MAXIMUM DENSITY.

9. WITHIN PAVED AREAS OF TRENCH EXCAVATION, THE BASE AND SURFACING SHALL BE RECONSTRUCTED AS SPECIFIED UNDER SECTION 02574 – PAVEMENT REMOVAL AND REPLACEMENT (GRANULAR MATERIAL ALL THE WAY UP).

10. NO MORE THAN 800 FEET OF TRENCH WITH PIPE IN PLACE SHALL BE PARTIALLY BACKFILLED AT ANY TIME.

E. ADDITIONAL EXCAVATION AND BACKFILL:

1. WHERE UNSUITABLE MATERIAL, SUCH AS ORGANIC SOILS, ROOTS, MULCH, OTHER VEGETABLE MATTER, OR OTHER MATERIAL WHICH, IN THE OPINION OF THE GEOTECHNICAL ENGINEER, WILL RESULT IN UNSATISFACTORY FOUNDATION CONDITIONS, IS ENCOUNTERED BELOW THE LEVEL OF THE PROPOSED PIPE BEDDING MATERIAL, IT SHALL BE WHOLLY OR PARTIALLY REMOVED AS DIRECTED BY THE GEOTECHNICAL ENGINEER AND DISPOSED OF OFF-SITE AT THE CONTRACTOR'S EXPENSE. SHEETING SHALL BE INSTALLED, IF NECESSARY, TO MAINTAIN PIPE TRENCHES WITHIN THE SPECIFIED LIMITS. THE RESULTING EXCAVATION SHALL BE BACKFILLED WITH SUITABLE BACKFILL MATERIAL, PLACED IN 6 INCH LAYERS, TAMPED AND COMPACTED UP TO THE LEVEL OF THE BOTTOM OF THE PROPOSED PIPE BEDDING MATERIAL. SUFFICIENT COMPACTION OF THIS MATERIAL SHALL BE PERFORMED TO PROTECT THE PROPOSED PIPE AGAINST SETTLEMENT. CONSTRUCTION SHALL THEN PROCEED IN ACCORDANCE WITH THE PROVISIONS AS SPECIFIED ABOVE.

2. ADDITIONAL EXCAVATION SHALL BE PERFORMED ONLY WHEN ORDERED BY THE ENGINEER. WHERE ORGANIC OR OTHER UNSUITABLE MATERIAL IS ENCOUNTERED IN THE EXCAVATION, THE CONTRACTOR SHALL BRING THE CONDITION TO THE ATTENTION OF THE ENGINEER AND OBTAIN HIS DETERMINATION AS TO WHETHER OR NOT THE MATERIAL WILL REQUIRE REMOVAL, PRIOR TO PREPARING THE PIPE BEDDING.

F. RESTORATION OF EXISTING SURFACES: PAVED AND GRASSED AREAS DISTURBED BY THE OPERATIONS REQUIRED UNDER THIS SECTION SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION, OR AS INDICATED ON THE DRAWINGS AND/OR SPECIFIED HEREIN.

3.03 COMPACTION AND DENSITIES

A. METHODS OF CONTROL AND TESTING OF BACKFILL CONSTRUCTION TO BE EMPLOYED IN THIS WORK ARE:

1. MAXIMUM DENSITY OF THE MATERIAL IN TRENCHES SHALL BE DETERMINED BY ASTMD-1557.

B. LABORATORY AND FIELD DENSITY TESTS WHICH, IN THE OPINION OF THE ENGINEER, ARE NECESSARY TO ESTABLISH COMPLIANCE WITH THE COMPACTION REQUIREMENTS OF THESE SPECIFICATIONS, WILL BE CONDUCTED AT THE OWNER'S EXPENSE. TESTS WILL BE MADE AT DEPTHS AND LOCATIONS SELECTED BY THE ENGINEER.

C. TRENCH BACKFILL THAT DOES NOT COMPLY WITH THE SPECIFIED DENSITIES, AS INDICATED BY SUCH TESTS, SHALL BE REWORKED AND RECOMPACTED UNTIL THE REQUIRED COMPACTION IS SECURED, AT NO ADDITIONAL COST TO THE OWNER. THE COSTS FOR RETESTING SUCH WORK SHALL BE PAID FOR BY THE CONTRACTOR.

END OF SECTION

PART 3.00 EXECUTION

3.01 PERFORMANCE

A. TRANSPORTING GRANULAR SUBBASE MATERIAL: THE GRANULAR SUBBASE MATERIAL SHALL BE TRANSPORTED TO THE POINT WHERE IT IS TO BE USED, OVER ROCK PREVIOUSLY PLACED IF PRACTICABLE, AND DUMPED ON THE END OF THE PRECEDING SPREAD. NO HAULING OVER THE SUBGRADE OR DUMPING ON THE SUBGRADE SHALL BE DONE.

B. SPREADING GRANULAR SUBBASE MATERIAL:

1. THE GRANULAR SUBBASE MATERIAL SHALL BE SPREAD UNIFORMLY, AND ALL SEGREGATED AREAS OF FINE OR COARSE ROCK SHALL BE REMOVED AND REPLACED WITH WELL-GRADED ROCK.

2. WHEN THE SPECIFIED COMPACTED THICKNESS OF THE BASE IS GREATER THAN 6 INCHES, THE BASE SHALL BE CONSTRUCTED IN TWO COURSES. THE THICKNESS OF THE FIRST COURSE SHALL BE APPROXIMATELY ONE-HALF THE TOTAL THICKNESS OF THE FINISHED BASE, OR ENOUGH ADDITIONAL TO BEAR THE WEIGHT OF THE CONSTRUCTION EQUIPMENT WITHOUT DISTURBING THE SUBGRADE.

C. COMPACTING AND FINISHING BASE:

1. GENERAL:

A. FOR SINGLE COURSE BASE, AFTER SPREADING IS COMPLETED, THE ENTIRE SURFACE SHALL BE SCARIFIED AND THEN SHAPED SO AS TO PRODUCE THE REQUIRED GRADE AND CROSS-SECTION AFTER COMPACTION.

B. FOR DOUBLE COURSE BASE, THE FIRST COURSE SHALL BE CLEANED OF FOREIGN MATERIAL, BLADED AND BROUGHT TO A SURFACE CROSS-SECTION APPROXIMATELY PARALLEL TO THAT OF THE FINISHED BASE. PRIOR TO THE SPREADING OF ANY MATERIAL FOR THE UPPER COURSE, THE DENSITY TESTS FOR THE LOWER COURSE SHALL BE MADE AND THE ENGINEER SHALL HAVE DETERMINED THAT THE REQUIRED COMPACTION HAS BEEN OBTAINED. AFTER THE SPREADING OF THE MATERIAL FOR THE SECOND COURSE IS COMPLETED, ITS SURFACE SHALL BE FINISHED AND SHAPED SO AS TO PRODUCE THE REQUIRED GRADE AND CROSS-SECTION AFTER COMPACTION AND FREE OF SCABS AND LAMINATIONS.

2. MOISTURE CONTENT: WHEN THE MATERIAL DOES NOT HAVE THE PROPER MOISTURE CONTENT TO INSURE THE REQUIRED DENSITY, WETTING OR DRYING WILL BE REQUIRED. IF THE MATERIAL IS DEFICIENT IN MOISTURE, WATER SHALL BE ADDED AND UNIFORMLY MIXED IN BY DISCING THE BASE COURSE TO ITS FULL DEPTH; IF THE MATERIAL CONTAINS AN EXCESS OF MOISTURE, SUCH EXCESS SHALL BE REDUCED OR REMOVED UNTIL THE REQUIRED MOISTURE CONTENT IS ATTAINED BEFORE BEING COMPACTED. WETTING OR DRYING OPERATIONS SHALL INVOLVE MANIPULATION OF THE ENTIRE WIDTH AND DEPTH OF THE BASE AS A UNIT.

3. DENSITY REQUIREMENTS: AS SOON AS PROPER CONDITIONS OF MOISTURE ARE ATTAINED, THE MATERIAL SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 98 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO DESIGNATION T-180.

4. DENSITY TESTS:

A. DURING FINAL COMPACTING OPERATIONS, IF BLADING OF ANY AREAS IS NECESSARY TO OBTAIN THE TRUE GRADE AND CROSS-SECTION, THE COMPACTING OPERATIONS SHALL BE CONTINUED OVER THE AREA PRIOR TO MAKING THE DENSITY DETERMINATIONS ON THE FINISHED BASE.

B. AT LEAST THREE DENSITY DETERMINATIONS SHALL BE MADE ON EACH DAY'S FINAL OPERATIONS, AND THE DENSITY DETERMINATIONS SHALL BE MADE AT MORE FREQUENT INTERVALS IF DEEMED NECESSARY BY THE ENGINEER.

5. CORRECTION OF DEFECTS:

A. IF AT ANY TIME THE SUBGRADE MATERIAL SHOULD BECOME MIXED WITH THE BASE COURSE MATERIAL, THE CONTRACTOR SHALL DIG OUT AND REMOVE THE MIXTURE, RESHAPE AND COMPACT THE SUBGRADE AND REPLACE THE REMOVED MATERIAL WITH CLEAN BASE MATERIAL, WHICH SHALL BE SHAPED AND COMPACTED AS SPECIFIED ABOVE.

B. IF CRACKS OR CHECKS APPEAR IN THE BASE, EITHER BEFORE OR AFTER PRIMING, AND THE CONTRACTOR IN THE OPINION OF THE ENGINEER WOULD IMPAIR THE STRUCTURAL EFFICIENCY OF THE BASE COURSE, THE CONTRACTOR SHALL REMOVE SUCH CRACKS OR CHECKS BY RESCARIFYING, RESHAPING, ADDING BASE MATERIAL AS MAY BE NECESSARY AND RECOMPACTING.

D. TESTING SURFACE: THE FINISHED SURFACE OF THE BASE COURSE SHALL BE CHECKED WITH A TEMPLATE CUT TO REQUIRED CROWN AND CROSS-SECTION AND WITH A 15-FOOT STRAIGHTEDGE LAID PARALLEL TO THE CENTERLINE OF THE ROAD. ALL IRREGULARITIES GREATER THAN 1/4 INCH SHALL BE CORRECTED BY SCARIFYING AND REMOVING OR ADDING GRANULAR SUBBASE MATERIAL AS MAY BE REQUIRED, AFTER WHICH THE ENTIRE AREA SHALL BE RECOMPACTED AS SPECIFIED HEREIN BEFORE.

E. THICKNESS DETERMINATIONS:

1. THE THICKNESS OF THE COMPACTED GRANULAR SUBBASE MATERIAL SHALL BE MEASURED AT INTERVALS OF NOT MORE THAN 200 FEET OR ONE TEST PER 10,000 SQUARE FEET. MEASUREMENTS SHALL BE TAKEN AT VARIOUS POINTS ON THE CROSS-SECTIONS PRIOR TO THE APPLICATION OF THE PRIME COAT.

2. THE MEASUREMENTS SHALL BE TAKEN IN HOLES THROUGH THE BASE OF NOT LESS THAN 3 INCHES IN DIAMETER. WHERE THE COMPACTED BASE IS DEFICIENT BY MORE THAN 1/2 INCH FROM THE THICKNESS CALLED FOR ON THE DRAWINGS, TEST HOLES SHALL BE MADE AT RIGHT ANGLES BY SCARIFYING TO A DEPTH OF AT LEAST 3 INCHES AND ADDING GRANULAR MATERIAL. THE BASE SHALL BE SCARIFIED AND ROCK ADDED FOR A DISTANCE OF 100 FEET IN EACH DIRECTION FROM THE EDGE OF THE DEFICIENT AREA. THE AFFECTED AREAS SHALL THEN BE BROUGHT TO THE REQUIRED STATE OF COMPACTION AND TO THE REQUIRED THICKNESS AND CROSS-SECTION.

F. PRIMING AND MAINTAINING:

1. THE PRIME COAT SHALL BE APPLIED ONLY WHEN THE BASE MEETS THE SPECIFIED DENSITY REQUIREMENTS AND THE MOISTURE CONTENT IN THE TOP HALF OF THE BASE DOES NOT EXCEED 90 PERCENT OF THE OPTIMUM MOISTURE CONTENT OF THE BASE MATERIAL. AT THE TIME OF PRIMING, THE BASE SHALL BE FIRM AND UNYIELDING. THE CONTRACTOR WILL BE RESPONSIBLE FOR ASSURING THAT THE TRUE CROWN AND GRADE ARE MAINTAINED WITH NO RUTTING OR OTHER DISTORTION AND THAT THE BASE MEETS ALL THE REQUIREMENTS AT THE TIME THE SURFACE COURSE IS APPLIED.

END OF SECTION

SECTION 02240

STABILIZED SUBGRADE

PART 1.00 GENERAL

1.01 WORK INCLUDED

A. THE WORK SPECIFIED IN THIS SECTION CONSISTS OF THE CONSTRUCTION OF A STABILIZED SUBGRADE WHERE INDICATED ON THE DRAWINGS. CONSTRUCTION SHALL BE TO THE UNIFORMITY; DENSITY AND BEARING RATIO SPECIFIED HEREINAFTER. ROADWAYS, STREETS, AND PARKING AREAS SHALL BE STABILIZED TO THE DEPTHS AND DIMENSIONS INDICATED ON THE DRAWINGS.

B. DEFINITIONS: THE STABILIZING SHALL BE STONE PER STATE DOT OR AS DESCRIBED HEREINAFTER. THE REQUIRED BEARING RATIO VALUE SHALL BE OBTAINED EITHER BY CONSTRUCTING THE SUBGRADE OF SELECTED MATERIALS FROM THE ROADWAY AND BORROW AREAS, OR BY STABILIZING THE SUBGRADE MATERIAL BY THE ADDITION AND MIXING IN OF SUITABLE STABILIZING MATERIAL. SUCH WORK SHALL BE

2. ALL SOFT AND YIELDING MATERIAL, AND ANY OTHER PORTIONS OF THE SUBGRADE THAT WILL NOT COMPACT READILY, SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL AND THE WHOLE SUBGRADE BROUGHT TO LINE AND GRADE, WITH PROPER ALLOWANCE FOR SUBSEQUENT COMPACTION.

G. MAINTENANCE OF COMPLETED SUBGRADE: AFTER THE SUBGRADE HAS BEEN COMPLETED AS SPECIFIED ABOVE, THE CONTRACTOR SHALL MAINTAIN IT FREE FROM RUTS, DEPRESSIONS AND ANY DAMAGE RESULTING FROM THE HAULING OR HANDLING OF MATERIALS, EQUIPMENT, TOOLS, ETC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE REQUIRED DENSITY UNTIL THE SUBSEQUENT BASE OR PAVEMENT IS IN PLACE. SUCH RESPONSIBILITY SHALL INCLUDE ANY REPAIRS, REPLACEMENT, ETC., OF CURB AND GUTTER, SIDEWALK, ETC., WHICH MIGHT BECOME NECESSARY IN ORDER TO RECOMPACT THE SUBGRADE IN THE EVENT OF UNDERWASH OR OTHER DAMAGE OCCURRING TO THE PREVIOUSLY COMPACTED SUBGRADE. ANY SUCH WORK REQUIRED FOR RECOMPACTION SHALL BE AT THE CONTRACTOR'S EXPENSE. DITCHES AND DRAINS SHALL BE CONSTRUCTED AND MAINTAINED ALONG THE COMPLETED SUBGRADE SECTION TO PROVIDE ADEQUATE DRAINAGE.

3.03 FIELD QUALITY CONTROL

A. BEARING VALUE REQUIREMENTS:

1. GENERAL: BEARING VALUE SAMPLES WILL BE OBTAINED AND TESTED BY THE ENGINEER AT COMPLETION OF SATISFACTORY MIXING OF THE STABILIZED AREA. FOR ANY AREA WHERE THE BEARING VALUE OBTAINED IS DEFICIENT FROM THE VALUE INDICATED IN THE DRAWINGS, IN EXCESS OF THE TOLERANCES ESTABLISHED HEREIN, ADDITIONAL STABILIZING MATERIAL SHALL BE SPREAD AND MIXED IN ACCORDANCE WITH 3.02.B.1 & 2. THIS REPROCESSING SHALL BE DONE FOR THE FULL WIDTH OF THE ROADWAY BEING STABILIZED AND LONGITUDINALLY FOR A DISTANCE OF 50 FEET BEYOND THE LIMITS OF THE AREA IN WHICH THE BEARING VALUE IS DEFICIENT. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION OF THE QUANTITY OF ADDITIONAL STABILIZING MATERIAL TO BE USED IN REPROCESSING.

F. DENSITY REQUIREMENTS:

1. GENERAL: WITHIN THE ENTIRE LIMITS OF THE WIDTH AND DEPTH OF THE AREAS TO BE STABILIZED, THE MINIMUM DENSITY ACCEPTABLE AT ANY LOCATION WILL BE 98 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T–180, TEST METHOD D.

C. TESTING: TESTS FOR THE SUBGRADE BEARING CAPACITY AND COMPACTION SHALL BE LOCATED NO MORE THAN 300 FEET APART AND SHALL BE STAGGERED TO THE LEFT, RIGHT, AND ON THE CENTERLINE OF ROADWAYS, AND AT A FREQUENCY OF ONE TEST PER 1,100 SQUARE YARDS OF STABILIZED AREA IN PARKING AREAS, AT LOCATIONS TO BE DETERMINED BY THE ENGINEER.

END OF SECTION

SECTION 02276
TEMPORARY EROSION AND SEDIMENTATION CONTROL

PART 1.00 GENERAL

1.01 WORK INCLUDED

A. THE WORK SPECIFIED IN THIS SECTION CONSISTS OF DESIGNING, PROVIDING, MAINTAINING AND REMOVING TEMPORARY EROSION AND SEDIMENTATION CONTROLS AS NECESSARY.

B. TEMPORARY EROSION CONTROLS INCLUDE, BUT ARE NOT LIMITED TO, GRASSING, MULCHING, SEEDING, WATERING AND RESEEDING ON–SITE SURFACES AND SPOIL AND BORROW AREA SURFACES, AND PROVIDING INTERCEPTOR DITCHES OF ENDS OF BERMS, INSTALLING STAKED SILT BARRIERS OR FLOATING SILT BARRIERS AT THOSE LOCATIONS WHICH WILL ENSURE THAT EROSION AND POLLUTION DURING CONSTRUCTION WILL BE PREVENTED IN ACCORDANCE WITH STATE DOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

C. CONTRACTOR IS RESPONSIBLE FOR PROVIDING EFFECTIVE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION OR UNTIL FINAL CONTROLS BECOME EFFECTIVE, SO AS TO ENSURE THAT SEDIMENTATION AND/OR TURBIDITY PROBLEMS ARE NOT CREATED IN THE RECEIVING WATER BODIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SHOALING, OR WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

D. SUFFICIENT PRECAUTIONS SHALL BE TAKEN DURING CONSTRUCTION TO MINIMIZE THE RUNOFF OF POLLUTING SUBSTANCES SUCH AS SILT, CLAY, FUELS, OILS, BITUMENS, CALCIUM CHLORIDE, OR OTHER POLLUTING MATERIALS HARMFUL TO HUMANS, FISH, OR OTHER LIFE, INTO THE SUPPLIES AND SURFACE WATERS OF THE STATE. CONTROL MEASURES MUST BE ADEQUATE TO ASSURE THAT TURBIDITY IN THE RECEIVING WATER WILL NOT BE INCREASED IN THE RECEIVING WATER MORE THAN 25 NEPHELOMETRIC TURBIDITY UNITS (NTU). SPECIAL PRECAUTIONS SHALL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT OPERATIONS THAT PROMOTE EROSION.

E. TEMPORARY SEDIMENTATION CONTROLS INCLUDE, BUT ARE NOT LIMITED TO, SILT DAMS, TRAPS, BARRIERS, AND APPURTENANCES AT THE FOOT OF SLOPED SURFACES WHICH WILL ENSURE THAT SEDIMENTATION POLLUTION WILL BE EITHER ELIMINATED OR MAINTAINED WITHIN ACCEPTABLE LIMITS AS ESTABLISHED BY THE OWNER.

F. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL INCLUDE EFFECTIVE MEANS TO MAINTAIN WATER QUALITY PRIOR TO DISCHARGE FROM PROJECT SITE.

1.02 RELATED WORK

A. SECTION 02210– SITE EARTHWORK
B. SECTION 02932 – SEEDING AND MULCHING
C. SECTION 02934 – SODDING

1.03 SUBMITTALS

A. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT TO STATE AND LOCAL AGENCIES (WITH COPY TO THE OWNER AND ENGINEER) FOR REVIEW AND APPROVAL THE PROGRAM FOR TEMPORARY EROSION AND SEDIMENT CONTROL TO BE IMPLEMENTED BY THE CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION. ALL ADDITIONAL PERMITS REQUIRED BY THE AGENCIES SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR.

B. THE APPROVAL BY THE STATE AND LOCAL AGENCY OF THE CONTRACTOR'S PROGRAM IN NO WAY RELIEVES THE CONTRACTOR FROM THE RESPONSIBILITY TO MEET ALL APPLICABLE RULES, REGULATIONS, AND PERMITTING CONDITIONS.

PART 2.00 PRODUCTS

2.01 EROSION CONTROL

A. MATERIALS TO CONTROL EROSION AND SEDIMENTATION SHALL COMPLY WITH SECTION 104 OF FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, INDEX NO. 103.

2.02 SEDIMENTATION CONTROL

A. INSTALL AND MAINTAIN SILT DAMS, TRAPS, BARRIERS, AND OTHER APPURTENANCES AS NECESSARY. HAY BALES, WHICH DETERIORATE, AND FILTER STONE WHICH DISLODGES, SHALL BE REPLACED.

PART 3.00 EXECUTION

3.01 PREPARATION

A. MINIMUM PROCEDURES FOR GRASSING ARE:

1. SCARIFY SLOPES TO A DEPTH OF NOT LESS THAN SIX INCHES AND REMOVE LARGE CLODS, ROCK, STUMPS, ROOTS LARGER THAN ½–INCH IN DIAMETER, AND DEBRIS.

2. SOW SEED WITHIN TWENTY–FOUR (24) HOURS AFTER THE GROUND IS SCARIFIED WITH EITHER MECHANICAL SEED DRILLS OR ROTARY BAND SEEDERS.

3. APPLY MULCH LOOSELY AND TO A THICKNESS OF BETWEEN ¾–INCH AND 1–1/2 INCHES.

4. APPLY NETTING OVER MULCHED AREAS ON SLOPED SURFACES.

5. ROLL AND WATER SEEDED AREAS IN A MANNER THAT WILL ENCOURAGE SPROUTING OF SEEDS AND GROWING OF GRASS. RESEED AREAS WHICH EXHIBIT UNSATISFACTORY GROWTH. BACKFILL AND SEED ERODED AREAS.

B. FLOATING SILT BARRIERS:

1. THIS WORK SHALL CONSIST OF INSTALLING, MAINTAINING AND REMOVAL OF FLOATING SILT BARRIERS TO CONTAIN TURBIDITY THAT MAY OCCUR AS THE RESULT OF DREDGING, FILLING, DEWATERING, OR OTHER CONSTRUCTION ACTIVITIES IN WATERS OF THE STATE OR ANY OF THE EXISTING ON–SITE LAKES, PONDS, OR STORM–WATER MANAGEMENT SYSTEMS.

2. THE TYPE OF BARRIER USED, THE DEPLOYMENT AND MAINTENANCE OF THE BARRIER SHALL BE SUCH AS TO MINIMIZE DISPERSION OF TURBID WATERS AND WILL NOT CAUSE AN INCREASE IN THE EXISTING PERMITTED TURBIDITY FROM THE CONSTRUCTION SITE INTO THE RECEIVING WATERS.

3.02 PERFORMANCE

A. SHOULD ANY OF THE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES EMPLOYED BY THE CONTRACTOR FAIL TO PRODUCE RESULTS WHICH COMPLY WITH THE REQUIREMENTS OF THIS SPECIFICATION, THE CONTRACTOR SHALL IMMEDIATELY TAKE WHATEVER STEPS NECESSARY TO CORRECT THE DEFICIENCY.

END OF SECTION

SECTION 02285
TERMITE CONTROL

PART 1.00 GENERAL

1.01 SECTION INCLUDES

A. SOIL POISONING TREATMENT.
B. WARRANTY

1.02 INTENT

A. TO GUARD AGAINST TERMITES AND OTHER COMMON GROUND INSECTS DETRIMENTAL TO WOOD CONSTRUCTION. MATERIALS MENTIONED IN PART 2.00 OF THIS SPECIFICATION ARE SUGGESTED FOR USE BUT SHALL NOT BE USED IF DISALLOWED BY GOVERNING LAWS AND/OR ORDINANCES.

1.03 QUALITY ASSURANCE

A. APPLICATOR:
COMPANY SPECIALIZING IN SOIL TREATMENT FOR TERMITE CONTROL WITH FIVE YEARS DOCUMENTED EXPERIENCE.
B. MATERIALS:
PROVIDE CERTIFICATION THAT TOXICANTS CONFORM TO REQUIREMENTS.

1.04 REGULATORY AGENCY REQUIREMENTS

A. CONFORM TO GOVERNING AUTHORITY REQUIREMENTS FOR APPLICATION LICENSING AND AUTHORITY TO USE TOXICANT CHEMICALS.

1.05 SUBMITTALS

A. PRODUCT DATA:
SUBMIT PER SUBMITTALS SECTION; INDICATE TOXICANTS TO BE USED, COMPOSITION BY PERCENTAGE, DILUTION SCHEDULE, AND INTENDED APPLICATION RATE. OWNER'S ACCEPTANCE IS REQUIRED PRIOR TO SHIPMENT.
B. MANUFACTURER'S INSTALLATION INSTRUCTIONS: SUBMIT PER SUBMITTALS SECTION.

1.06 GUARANTEE

A. BONDED GUARANTEE WHICH COVERS AGAINST INVASION OR PROPAGATION OF SUBTERRANEAN TERMITES, DAMAGE TO BUILDING OR BUILDING CONTENTS CAUSED BY TERMITES; REPAIRS TO BUILDING OR BUILDING CONTENTS SO CAUSED, FOR A PERIOD OF FIVE YEARS AFTER SUBSTANTIAL COMPLETION; SUBJECT TO ANNUAL RENEWAL THEREAFTER.

PART 2.00 PRODUCTS

2.01 TOXICANT CHEMICAL(S)

A. TERMIDOR, BAIT – APPLY PER MANUFACTURER'S RECOMMENDATIONS.

2.02 MIXES

A. DILUTE TOXICANT CHEMICAL TO A PERCENT SOLUTION SPECIFIED BY MANUFACTURER.

PART 3.00 EXECUTION

3.01 DELIVERY

A. DELIVER MATERIALS IN ORIGINAL UNOPENED MANUFACTURER'S PACKAGING WITH LABELS AND SEALS IDENTIFYING CONTENT.

3.02 INSPECTION

A. VERIFY EXPOSED SOIL SURFACES ARE UNFROZEN, SUFFICIENTLY DRY TO ABSORB TOXICANT, READY TO RECEIVE TREATMENT. BEGINNING OF APPLICATION MEANS ACCEPTANCE MEANS ACCEPTANCE OF SOIL CONDITIONS.

3.03 APPLICATION

A. SAFETY:
APPLY MATERIALS IN ACCORD WITH RECOMMENDED SAFETY PRECAUTIONS FOR MATERIALS USED.
B. TOXICANT CHEMICALS:
APPLY TOXICANT IMMEDIATELY PRIOR TO INSTALLATION OF VAPOR BARRIER UNDER SLAB–ON–GRADE OR FINISH GRADING OUTSIDE FOUNDATION WALLS. APPLY EXTRA TREATMENT TO STRUCTURE PENETRATIONS, PIPE, DUCTS, AND OTHER SOIL PENETRATIONS. APPLY AS A COARSE SPRAY TO ENSURE UNIFORM DISTRIBUTION. COORDINATE SOIL TREATMENT AT FOUNDATION PERIMETER WITH FINISH GRADING AND LANDSCAPING WORK TO AVOID DISTURBANCE OF TREATED SOIL.

3.04 CLEAN–UP

A. UPON COMPLETION OF WORK OF THIS SECTION, REMOVE RELATED DEBRIS FROM PREMISES.

END OF SECTION

SECTION 02507
PRIME AND TACK COATS

PART 1.00 GENERAL

1.01 WORK INCLUDED

A. THE WORK SPECIFIED IN THIS SECTION CONSISTS OF AN APPLICATION OF BITUMINOUS MATERIAL ON PREVIOUSLY PREPARED BASES AND ON EXISTING PAVEMENT SURFACES IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN CONFORMITY WITH THE LINES, GRADES, DIMENSIONS AND NOTES SHOWN ON THE DRAWINGS.

PART 2.00 PRODUCTS

2.01 MATERIALS

A. PRIME COAT: UNLESS OTHERWISE INDICATED, THE MATERIAL USED FOR THE PRIME COAT SHALL BE CUTBACK ASPHALT GRADE RC–70 OR RC–250 AND SHALL CONFORM TO THE REQUIREMENTS SPECIFIED IN AASHTO DESIGNATION M–81. UNLESS OTHERWISE INDICATED, THE USE OF EITHER RC–70 OR RC–250 SHALL BE AT THE CONTRACTOR'S OPTION.

B. TACK COAT: THE MATERIAL USED FOR THE TACK COAT SHALL BE EMULSIFIED ASPHALT, GRADE RS–2 AND SHALL CONFORM TO THE REQUIREMENTS SPECIFIED IN AASHTO DESIGNATION M–140.

2.02 EQUIPMENT

A. THE PRESSURE DISTRIBUTOR USED FOR PLACING THE TACK OR PRIME COAT SHALL BE EQUIPPED WITH PNEUMATIC TIRES HAVING SUFFICIENT WIDTH OF RUBBER IN CONTACT WITH THE ROAD SURFACE TO AVOID BREAKING THE BOND OF OR FORMING A RUT IN THE SURFACE. THE DISTANCE BETWEEN THE CENTERS OF OPENINGS OF THE OUTSIDE NOZZLES OF THE SPRAY BAR SHALL BE EQUAL TO THE WIDTH OF THE APPLICATION REQUIRED, WITHIN AN ALLOWABLE VARIATION OF 2 INCHES. THE OUTSIDE NOZZLE AT EACH END OF THE SPRAY BAR SHALL HAVE AN AREA OF OPENING OF NOT LESS THAN 25 PERCENT, NOR MORE THAN 75 PERCENT IN EXCESS OF THE OTHER NOZZLES WHICH SHALL HAVE UNIFORM OPENINGS. WHEN THE APPLICATION COVERS LESS THAN THE FULL WIDTH, THE NORMAL OPENING OF THE END NOZZLE AT THE JUNCTION LINE MAY REMAIN THE SAME AS THOSE OF THE INTERIOR NOZZLES.

PART 3.00 EXECUTION

3.01 PREPARATION

A. BEFORE APPLYING ANY BITUMINOUS MATERIAL, ALL LOOSE MATERIAL, DUST, DIRT, AND FOREIGN MATERIAL, WHICH MIGHT PREVENT PROPER BOND WITH THE EXISTING SURFACE, SHALL BE REMOVED. PARTICULAR CARE SHALL BE TAKEN TO CLEAN THE OUTER EDGES OF THE STRIP TO BE TREATED IN ORDER TO ENSURE THAT THE PRIME OR TACK COAT WILL ADHERE.

B. WHEN THE PRIME OR TACK COAT IS APPLIED ADJACENT TO CURB AND GUTTER, OR ANY OTHER CONCRETE SURFACE (EXCEPT WHERE THEY ARE TO BE COVERED WITH A BITUMINOUS WEARING COURSE), SUCH CONCRETE SURFACES SHALL BE PROTECTED BY HEAVY PAPER OR OTHER PROTECTIVE MATERIAL WHILE THE PRIME OR TACK COAT IS BEING APPLIED. ANY BITUMINOUS MATERIAL DEPOSITED ON SUCH CONCRETE SURFACES SHALL BE REMOVED IMMEDIATELY.

3.02 WEATHER LIMITATIONS

A. NO BITUMINOUS MATERIAL SHALL BE APPLIED WHEN THE AIR TEMPERATURE IS LESS THAN 50°F IN THE SHADE, OR WHEN THE WEATHER CONDITIONS OR THE CONDITION OF THE EXISTING SURFACE IS UNSUITABLE. IN NO CASE SHALL BITUMINOUS MATERIAL BE APPLIED WHILE RAIN IS FALLING OR WHEN THERE IS WATER ON THE SURFACE TO BE COVERED.

3.03 APPLICATION OF PRIME COAT

A. AFTER THE BASE HAS BEEN FINISHED; THE FULL WIDTH OF SURFACE SHALL BE SWEPT WITH A POWER BROOM SUPPLEMENTED WITH HAND BROOMS AND MECHANICAL BLOWERS PRIOR TO THE APPLICATION OF THE PRIME COAT. CARE SHALL BE TAKEN TO REMOVE ALL LOOSE DUST, DIRT AND OBJECTIONABLE MATTER. IF DEEMED NECESSARY, THE BASE SHALL BE LIGHTLY SPRINKLED WITH WATER IMMEDIATELY IN ADVANCE OF THE PRIME COAT. THE PRIME COAT SHALL BE APPLIED TO THE FULL WIDTH OF THE BASE.

B. THE TEMPERATURE OF THE PRIME MATERIAL SHALL BE SUCH AS TO ENSURE UNIFORM DISTRIBUTION. THE MATERIAL SHALL BE APPLIED WITH A PRESSURE DISTRIBUTOR AS SPECIFIED ABOVE. THE AMOUNT TO BE APPLIED SHALL BE SUFFICIENT TO COAT THE SURFACE THOROUGHLY AND UNIFORMLY WITHOUT ANY EXCESS TO FORM POOLS OR TO FLOW OFF THE BASE. FOR LIMEROCK BASE, THE RATE OF APPLICATION SHALL NOT BE LESS THAN 0.10 GALLONS PER SQUARE YARD; FOR SHELL BASE, THE RATE OF APPLICATION SHALL NOT BE LESS THAN 0.15 GALLONS PER SQUARE YARD; FOR SOIL CEMENT BASE, THE RATE OF APPLICATION SHALL NOT BE LESS THAN 0.15 GALLONS PER SQUARE YARD.

C. IF THE ROADWAY IS TO BE OPENED FOR USE FOLLOWING THE APPLICATION OF THE PRIME MATERIAL, A LIGHT UNIFORM APPLICATION OF CLEAN SAND SHALL BE APPLIED AND ROLLED. THE SAND SHALL BE NONPLASTIC, SHALL BE FREE FROM SILT AND ROCK PARTICLES AND SHALL NOT CONTAIN ANY STICKS, VEGETATION, GRASS, ROOTS OR ORGANIC MATTER. AFTER THE SAND COVERING HAS BEEN APPLIED, THE SURFACE MAY BE OPENED TO TRAFFIC.

3.04 APPLICATION OF TACK COAT

A. IN GENERAL, A TACK COAT WILL NOT BE USED ON PRIMED BASES EXCEPT IN AREAS WHICH HAVE BECOME EXCESSIVELY DIRTY AND CANNOT BE CLEANED OR WHERE THE PRIME HAS CURED AND LOST ALL OF ITS BONDING EFFECT.

B. NO TACK COAT SHALL BE APPLIED UNTIL THE PRIMED BASE OR LEVELING COURSE HAS BEEN CLEANED AND IS FREE FROM SAND, DUST OR OTHER OBJECTIONABLE MATERIAL.

C. THE TACK COAT SHALL BE APPLIED WITH A PRESSURE DISTRIBUTOR AS SPECIFIED ABOVE. IT SHALL BE HEATED TO A SUITABLE CONSISTENCY AND APPLIED IN A THIN UNIFORM LAYER AT THE RATE BETWEEN 0.02 GALLONS AND 0.05 GALLONS PER SQUARE YARD.

D. THE TACK COAT SHALL BE APPLIED SUFFICIENTLY IN ADVANCE OF THE LAYING OF THE WEARING SURFACE TO PERMIT DRYING, BUT SHALL NOT BE APPLIED SO FAR IN ADVANCE OR OVER SUCH AN AREA AS TO LOSE ITS ADHESIVENESS AS A RESULT OF BEING COVERED WITH DUST OR OTHER FOREIGN MATERIAL. SUITABLE PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT THE SURFACE WHILE THE TACK COAT IS DRYING AND UNTIL THE WEARING SURFACE IS APPLIED.

END OF SECTION

SECTION 02512
ASPHALTIC CONCRETE PAVING

PART 1.00 GENERAL

1.01 SCOPE OF WORK

A. THE WORK SPECIFIED IN THIS SECTION CONSISTS OF THE CONSTRUCTION OF ASPHALTIC CONCRETE SURFACE COURSES COMPOSED OF A MIXTURE OF AGGREGATES, MINERAL FILLER AND ASPHALT CEMENT PROPERLY LAID UPON A PREPARED BASE, OR A NEWLY CONSTRUCTED BINDER COURSE, IN ACCORDANCE WITH THESE SPECIFICATIONS AND ALL REQUIREMENTS OF STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITION) AND IN CONFORMITY WITH THE LINES, GRADES, THICKNESS AND TYPICAL CROSS SECTION SHOWN ON THE DRAWINGS. CONTRACTOR SHALL FURNISH TYPES I, S–I OR S–III ASPHALTIC CONCRETE AS SPECIFIED BY THE DRAWINGS. ASPHALTIC CONCRETE PAVEMENT AROUND DRAIN INLETS AND CATCH BASINS SHALL CONFORM TO THE FOLLOWING PROVISIONS, EXCEPT PLACING MATERIAL MAY BE BY HAND METHODS.

1.02 RELATED WORK

A. SECTION 02210 – SITE EARTHWORK
B. SECTION 02234 – SOIL CEMENT BASE
C. SECTION 02240 – STABILIZED SUBGRADE

D. WORK AND MATERIALS WILL CONFORM TO REQUIREMENTS OF THE STATE FOR TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) EXCEPT THAT THE USE OF RECYCLED OR MILLED ASPHALT WILL NOT BE PERMITTED. IN CASE OF CONFLICT BETWEEN THESE SPECIFICATIONS AND STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), THE MORE STRINGENT SPECIFICATION SHALL GOVERN.

1.03 QUALITY ASSURANCE

A. LABORATORY ANALYSIS BY A CERTIFIED TESTING LABORATORY ON ALL MATERIALS SHALL BE COMPLETED AND THE MATERIALS ACCEPTED BY THE ENGINEER PRIOR TO PLACEMENT.

B. THE CONTRACTOR SHALL SUBMIT MANUFACTURER'S CERTIFICATE OF COMPLIANCE FOR APPROVAL OF PAVING MATERIALS.

C. THE CONTRACTOR SHALL SUBMIT A STATEMENT OF SOURCE OF MATERIALS AND DESIGN MIX FORMULA FOR APPROVAL PRIOR TO PROCESSING AT THE ASPHALT PLANT.

PART 2.00 PRODUCTS

2.01 MATERIALS

A. BITUMINOUS MATERIAL: ASPHALT CEMENT, VISCOSITY GRADE AC–20, SHALL CONFORM TO THE REQUIREMENTS OF STATE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION).

B. COARSE AGGREGATE:

1. THE COARSE AGGREGATE SHALL BE COMPOSED OF CLEAN, DURABLE LIMEROCK. WHEN SUBJECTED TO THE LOS ANGELES ABRASION TEST, (AASHTO T–96), THE LOSS SHALL NOT EXCEED 45 PERCENT.

2. EXTRANEOUS SUBSTANCES: ALL COARSE AGGREGATE SHALL BE WASHED AND FREE FROM DISINTEGRATED PIECES, SALT, ALKALI, VEGETABLE MATTER AND ADHERENT COATING.

A. THE WEIGHT OF THE EXTRANEOUS SUBSTANCES SHALL NOT EXCEED THE FOLLOWING PERCENTAGES:

	PERCENT
COAL AND LIGNITE	1.00
CLAY LUMPS	0.05
CINDERS AND CLINKERS	0.05
SOFT FRAGMENTS	10.00
FREE SHELLS	1.00
STICKS (WET)	0.03
MATERIAL PASSING NO. 200 SIEVE	1.75

B. IN ADDITION, THE SUM OF THE PERCENTAGES OF ALL MATERIALS LISTED ABOVE SHALL NOT EXCEED 10 PERCENT. COARSE AGGREGATE CONTAINING ANY APPRECIABLE AMOUNT OF PHOSPHATE SHALL NOT BE USED.

3. STONE: PRE–CENOZOIC LIMESTONE AND DOLOMITES SHALL NOT BE USED AS CRUSHED–STONE AGGREGATES, EITHER COARSE OR FINE, FOR WEARING COURSES OF ASPHALTIC CONCRETE SURFACE COURSES. THIS SPECIFICALLY INCLUDES MATERIALS FROM THE KETONA DOLOMITE (CAMBRIAN), NEWALA LIMESTONE (LOWER ORDOVICIAN), BANGOR LIMESTONE (MISSISSIPPIAN), AND OTHER FORMATIONS OF SIMILAR COMPOSITION AND ORIGIN OCCURRING IN CENTRAL AND NORTHERN ALABAMA AND GEORGIA.

4. SLAG: SLAG SHALL BE CLEAN, TOUGH AND DURABLE. IT MAY BE EITHER AIR–COOLED BLAST–FURNACE SLAG OR PHOSPHATE SLAG. IT SHALL BE REASONABLY UNIFORM IN DENSITY AND QUALITY, AND FREE FROM DELETERIOUS SUBSTANCES OTHER THAN AS PERMITTED ABOVE. IT SHALL CONTAIN NOT MORE THAN 1.5 PERCENT OF SULFUR. THE DRY–RODDED WEIGHT SHALL BE NOT LESS THAN 70 POUNDS PER CUBIC FOOT. THE LOSS, WHEN THE SLAG IS SUBJECTED TO THE LOS ANGELES ABRASION TEST, SHALL NOT EXCEED 45 PERCENT.

C. FINE AGGREGATE:

1. FINE AGGREGATE CONCRETE SHALL CONSIST OF NATURAL SAND, STONE SCREENINGS, SLAG SCREENINGS OR A COMBINATION THEREOF, COMPOSED OF CLEAN, TOUGH, ANGULAR GRAINS, FREE FROM CLAY, LOAM OR OTHER FOREIGN MATTER. STONE OR SLAG SCREENINGS SHALL BE PRODUCED FROM MATERIALS COMPLYING WITH THE ABRASION REQUIREMENTS FOR COARSE AGGREGATE SPECIFIED ABOVE.

2. ANY SCREENINGS USED IN THE COMBINATION OF AGGREGATE SHALL CONTAIN NOT MORE THAN 15 PERCENT OF MATERIAL PASSING THE NO.200 SIEVE AND SHALL BE WASHED IF NECESSARY TO MEET THIS REQUIREMENT.

3. THE NATURAL SAND PORTION OF THE FINE AGGREGATE OTHER THAN SCREENINGS SHALL BE SILICEOUS CONTAINING NOT MORE THAN 10 PERCENT OF MATERIAL PASSING THE NO. 200 SIEVE.

4. THE FINE AGGREGATE, WHEN TESTED BY MEANS OF LABORATORY SIEVES, SHALL MEET THE FOLLOWING REQUIREMENTS:

Passing Sieve	Retained On Sieve	Percent By Weight
No. 4		90–100
No. 4	No. 10	0–15
No. 10	No. 40	15–50
No. 40	No. 80	25–60
No. 80	No. 200	8–40
No. 200		0–10

5. FINE AGGREGATE CONTAINING MORE THAN 1.00 PERCENT OF PHOSPHATE SHALL NOT BE USED.

D. MINERAL FILLER:

1. MINERAL FILLER SHALL CONSIST OF LIMEROCK DUST, PORTLAND CEMENT, SLAG DUST, HYDRATED LIME OR OTHER INERT MINERAL MATTER APPROVED BY THE ENGINEER AND CONFORMING TO THE FOLLOWING GRADATION REQUIREMENTS:

TOTAL PASSING NO. 30 SIEVE ..... 100 PERCENT
TOTAL PASSING NO. 80 SIEVE ..... 95 PERCENT (MIN.)
TOTAL PASSING NO. 200 SIEVE ..... 65 PERCENT (MIN.)

2. THE MINERAL FILLER SHALL BE THOROUGHLY DRY AND FREE FROM LUMPS CONSISTING OF

AGGREGATIONS OF FINE PARTICLES. GROUND PHOSPHATE WILL NOT BE ALLOWED AS A MINERAL FILLER.

2.02 GENERAL COMPOS–ON OF MIXTURE

A. THE BITUMINOUS MIXTURE SHALL BE COMPOSED OF A COMBINATION OF AGGREGATE (COARSE, FINE, OR MIXTURES THEREOF), MINERAL FILLER, IF REQUIRED, AND BITUMINOUS MATERIAL. THE SEVERAL AGGREGATE FRACTIONS SHALL BE SIZED, UNIFORMLY GRADED AND COMBINED IN SUCH PROPORTIONS THAT THE RESULTING MIXTURE WILL MEET THE GRADING AND PHYSICAL PROPERTIES OF THE APPROVED JOB MIX FORMULA

B. IN ALL CASES, THE JOB MIX FORMULA SHALL BE WITHIN THE DESIGN RANGES SPECIFIED IN THE FOLLOWING TABLE:

Sieve Size	Percent by Weight Passing		
	Type S-I	Type S-III	Type I
3/4 inch	100		
1/2 inch	88-100	100	100
3/8 inch	75-93	88-100	88-100
No. 4	47-75	60-90	54-85
No. 10	31-53	40-70	35-50
No. 40	19-35	20-45	16-41
No. 80	7-21	10-30	7-28
No. 200	2-7	2-7	4-8

C. ASPHALT CEMENT (BITUMEN) SHALL CONSIST OF 4–1/2 TO 9 PERCENT BY WEIGHT OF THE TOTAL MIX AS DETERMINED BY JOB MIX FORMULA. FOR HIGHLY ABSORPTIVE AGGREGATES, THE UPPER LIMIT MAY BE RAISED.

D. WHERE HAND PLACING AND FINISHING IS PERMITTED FOR SMALL AND IRREGULAR AREAS, SUCH AS TURNOUTS, CROSSOVERS, ACCELERATION AND DECELERATION LANES, ETC., THE PORTION OF THE GRADE NO. 16 COARSE AGGREGATE RETAINED ON A NO. 4 SIEVE MAY BE OMITTED FROM THE MIXTURE AND THE PERCENT BY WEIGHT OF THE COARSE AGGREGATE PASSING THE NO. 4 SIEVE AND RETAINED ON THE NO. 10 SIEVE SHALL BE WITHIN THE RANGE SPECIFIED FOR THE TOTAL COARSE AGGREGATE IN THE MIX.

E. PROPORTIONS OF SILICA SAND AND LOCAL MATERIALS: NOT MORE THAN 25 PERCENT BY WEIGHT OF THE TOTAL AGGREGATE USED SHALL BE SILICA SAND OR LOCAL MATERIALS. THE SILICA SAND SHALL CONFORM TO ALL REQUIREMENTS OF SPECIFICATIONS AND THE LOCAL MATERIALS SHALL MEET THE REQUIREMENTS OF STATE DOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION).

2.03 FORMULA FOR JOB MIX

A. THE GENERAL COMPOSITION LIMITS PRESCRIBED ABOVE ARE MASTER RANGES OF TOLERANCES TO GOVERN MIXTURES MADE FROM ANY MATERIALS MEETING THE SPECIFICATIONS, AND THEY ARE MAXIMUM AND MINIMUM FOR ALL CASES. A CLOSER CONTROL APPROPRIATE TO THE JOB MATERIALS WILL BE REQUIRED FOR THE SPECIFIC PROJECT IN ACCORDANCE WITH THE JOB MIX FORMULA.

B. NO WORK SHALL BE STARTED UNTIL THE ENGINEER HAS APPROVED THE JOB MIX FORMULA.

C. MATERIALS THAT WILL BE USED TO MAKE UP THE APPROVED JOB MIX SHOULD BE STOCKPILED IN SUFFICIENT QUANTITY TO MEET THE DEMANDS FOR THE ENTIRE PROJECT IN PROGRESS. IF THIS IS NOT PRACTICABLE, CARE MUST BE TAKEN TO ENSURE ADEQUATE QUALITY CONTROL OF THE MATERIALS USED IN EACH JOB MIX, SHOULD THE SOURCE OF SUPPLY FOR THE MATERIALS USED IN THE JOB MIX BE CHANGED, OR SHOULD THE MATERIALS FROM THE SOURCE VARY APPRECIABLY FROM THE MATERIALS USED IN THE JOB MIX FORMULA, THE JOB MIX FORMULA MUST BE ALTERED ACCORDINGLY.

C. COMBINED DRY AGGREGATE GRADATION OF THE HOT BINS SHALL BE WITHIN THE FOLLOWING LIMITS OF THE JOB MIX FORMULA:

Sieve Size	Tolerance Percent		
	One Test	Two Tests	Three Tests
3/4 inch	5.0	3.5	2.9
1/2 inch	5.0	3.5	2.9
3/8 inch	5.0	3.5	2.9
No. 4	5.0	3.5	2.9
No. 10	5.0	3.5	2.9
No. 40	4.0	2.8	2.3
No. 80	3.0	2.1	1.7
No. 200	2.0	1.4	1.2

E. AFTER THE JOB MIX FORMULA IS ESTABLISHED, EACH MIX FOR THE PROJECT SHALL MEET THE APPROVED FORMULA WITHIN THE FO

3.05 LIMITATIONS FOR SPREADING

A. THE MIXTURE SHALL BE SPREAD ONLY WHEN THE SURFACE IS PROPERLY PREPARED AND IS INTACT, FIRM, CURED AND DRY. NO MIXTURE SHALL BE SPREAD WHEN THE AIR TEMPERATURE IS LESS THAN 40°F, OR WHEN THE SPREADING CANNOT BE FINISHED AND COMPACTED DURING DAYLIGHT HOURS. THE TEMPERATURE OF THE MIX AT THE TIME OF SPREADING SHALL NOT BE LESS THAN 230°F.

3.06 PLACING MIXTURE

A. UPON ARRIVAL, THE MIXTURE SHALL BE DUMPED INTO AN APPROVED MECHANICAL SPREADER AND IMMEDIATELY SPREAD AND STRUCK OFF TO THE FULL WIDTH REQUIRED AND TO SUCH APPROPRIATE LOOSE DEPTH FOR EACH SUCCESSIVE COURSE THAT WHEN THE WORK IS COMPLETED THE REQUIRED THICKNESS OR WEIGHT OF MIXTURE PER SQUARE YARD WILL BE SECURED. AN EXCESS AMOUNT OF MIXTURE SHALL BE CARRIED AHEAD OF THE SCREED AT ALL TIMES. HAND RAKING SHALL BE DONE BEHIND THE MACHINE AS REQUIRED.

B. IN LIMITED AREAS, WHERE, ON ACCOUNT OF IRREGULARITIES OR UNAVOIDABLE OBSTACLES, THE USE OF MECHANICAL SPREADING AND FINISHING EQUIPMENT IS IMPRACTICABLE, THE MIXTURE MAY BE SPREAD BY HAND, WHEN SO AUTHORIZED BY THE ENGINEER.

C. THE MIXTURE SHALL BE LAID ONLY WHEN THE SURFACE TO BE COVERED IS DRY AND ONLY WHEN WEATHER CONDITIONS ARE SUITABLE. ALL DEFECTIVE AREAS IN THE FOUNDATION SHALL BE REPLACED IN ADVANCE OF LAYING THE MIXTURE.

D. ALL STRUCTURES WHICH WILL BE IN ACTUAL CONTACT WITH THE ASPHALTIC MIXTURE, INCLUDING THE VERTICAL FACES OF EXISTING PAVEMENTS, SHALL BE PAINTED WITH A UNIFORM COATING OF ASPHALT MATERIAL TO PROVIDE A CLOSELY BONDED, WATERTIGHT JOINT.

E. WHEN NECESSARY, DUE TO THE TRAFFIC REQUIREMENTS, THE MIXTURE SHALL BE LAID IN STRIPS IN SUCH MANNER AS TO PROVIDE FOR A PASSAGE OF TRAFFIC. WHEN THE ROAD IS CLOSED TO TRAFFIC, THE MIXTURE MAY BE LAID THE FULL WIDTH OF PAVEMENT, BY MACHINES TRAVELING IN ECHELON.

F. BEFORE ANY ROLLING IS STARTED, THE SURFACE SHALL BE CHECKED, ANY INEQUALITIES ADJUSTED, AND ANY EXCESS OF MIXTURE OR LOOSE MATERIAL FROM THE SCREED, AND FAT SPOTS FROM ANY SOURCE. SHALL BE REMOVED AND REPLACED WITH SATISFACTORY MATERIAL.

3.07 COMPACTING MIXTURE

A. AFTER THE SPREADING, THE MIXTURE SHALL BE ROLLED WHEN IT HAS SET SUFFICIENTLY OR COME TO THE PROPER CONDITION TO BE ROLLED, AND WHEN THE ROLLING DOES NOT CAUSE DISPLACEMENT.

B. ROLLING SHALL BEGIN AT THE CENTER AND PROGRESS TOWARD THE OUTSIDE, PARALLELING THE CENTERLINE OF THE ROADWAY. UNIFORMLY LAPPING AT LEAST ONE-HALF OF THE WIDTH.

C. THE MOTION OF THE ROLLER SHALL' AT ALL TIMES BE SLOW ENOUGH TO AVOID DISPLACEMENT OF THE MIXTURE, AND ANY DISPLACEMENT SHALL AT ONCE BE CORRECTED BY THE USE OF RAKES AND FRESH MIXTURE WHERE REQUIRED. THE ROLLING SHALL INCLUDE TRANSVERSE, LONGITUDINAL, DIAGONAL AND, WHERE PRACTICABLE, CRESCENT ROLLING, AS MAY BE NECESSARY TO OBTAIN THE SPECIFIED DENSITY.

D. THE SEAL ROLLING WITH STEEL—WHEELED ROLLERS WEIGHING FROM 5 TONS TO 12 TONS SHALL FOLLOW AS CLOSE BEHIND THE SPREADER AS IS POSSIBLE WITHOUT PICKING UP, DISPLACING OR BLUSTERING THE MATERIAL. ROLLING WITH THE SELF—PROPELLED PNEUMATIC—TIRED ROLLERS SHALL FOLLOW AS SOON AS POSSIBLE AND AS CLOSE BEHIND THE SEAL ROLLING AS THE STATE OF THE MIXTURE WILL PERMIT. THE ROLLING SHALL BE DONE SUCH THAT THE SELF—PROPELLED TRAFFIC ROLLER SHALL COVER EVERY AREA OF THE SURFACE WITH AT LEAST SIX PASSES. THIS FINAL ROLLING SHALL BE DONE BEFORE THE PAVEMENT TEMPERATURE IS LOWER THAN 140°F, AND SHALL BE CONTINUED UNTIL ALL ROLLER MARKS OR TIRE MARKS ARE ELIMINATED. SELF—PROPELLED, PNEUMATIC—TIRED ROLLERS SHALL BE USED FOR THE ROLLING OF ASPHALTIC CONCRETE LEVELING COURSES. AT THE OPTION OF THE CONTRACTOR, A STEEL—WHEELED ROLLER MAY BE USED TO SUPPLEMENT THE SELF—PROPELLED PNEUMATIC—TIRED ROLLERS, BUT NOT MORE THAN ONE STEEL—WHEELED ROLLER MAY BE USED IN CONJUNCTION WITH THE NECESSARY NUMBER OF SELF—PROPELLED PNEUMATIC—TIRED ROLLERS. AFTER FINAL COMPACTION, THE FINISHED PAVEMENT SHALL AT NO POINT HAVE A DENSITY LESS THAN 96 PERCENT OF THE LABORATORY COMPACTED DENSITY. ROLLING WITH THE SELF—PROPELLED PNEUMATIC—TIRED ROLLER SHALL PROCEED AT A SPEED FROM 6 TO 10 MILES PER HOUR AND NOT MORE. THE ROLLING SHALL NOT EXCEED 3,000 SQUARE YARDS PER HOUR PER ROLLER. A SUFFICIENT NUMBER OF SELF—PROPELLED PNEUMATIC—TIRED ROLLERS SHALL BE USED SO THAT THE ROLLING OF THE SURFACE FOR THE REQUIRED NUMBER OF PASSES WITHIN THIS MAXIMUM ROLLING RATE SHALL NOT DELAY ANY PHASE OF THE PAVING OPERATION, WHEN SECUTIVE EXCESSIVE COOLING OF THE MIXTURE BEFORE THE ROLLING IS COMPLETE. IN THE EVENT THAT THE ROLLING IS NOT PROPERLY MAINTAINED TO SCHEDULE AS OUTLINED ABOVE, THE PAVING OPERATION SHALL BE DISCONTINUED UNTIL THE ROLLING OPERATIONS HAVE CAUGHT UP TO THE SPREADER(S).

SECTION 02720

STORM DRAINAGE STRUCTURES, PIPES AND FITTINGS

PART 1.00 GENERAL

1.01 WORK INCLUDED

A. THE WORK INCLUDED IN THIS SECTION CONSISTS OF FURNISHING ALL NECESSARY LABOR, MATERIALS, EQUIPMENT AND TRANSPORTATION FOR THE CONSTRUCTION OF CULVERTS, STORM SEWERS, INLETS AND OTHER DRAINAGE STRUCTURES AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

1.02 RELATED WORK

A. SECTION 02210 – SITE EARTHWORK.
B. SECTION 02220 – STRUCTURE EXCAVATION AND BACKFILL.
C. SECTION 02221 – TRENCHING, BACKFILLING AND COMPACTION FOR UTILITY AND DRAINAGE SYSTEMS.
D. SECTION 02530 – DEWATERING SYSTEM.
E. SECTION 03000 – CONCRETE (SITE WORK).

1.03 SUBMITTALS

A. SHOP DRAWINGS: SHOP DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED FOR APPROVAL.
   1. GRATES AND CASTINGS.
   2. PRECAST STRUCTURES.
   3. PIPE AND FITTINGS.
B. MANUFACTURER'S CERTIFICATION OF CONFORMANCE TO ASTM REQUIREMENTS FOR GRATE CASTINGS, PRECAST STRUCTURES, AND DRAINAGE PIPE.

1.04 JOB CONDITIONS

A. EXISTING DRAINAGE SYSTEM: SHOULD THE WORK INDICATED ON THE DRAWINGS REQUIRE CONNECTION TO AN EXISTING STORM SEWER SYSTEM, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SAID SYSTEM IN OPERATIONAL ORDER. THE CONTRACTOR SHALL ALSO REPAIR OR REPLACE ANY DAMAGED PORTIONS OF THE EXISTING STORM SEWER SYSTEM TO ORIGINAL OR BETTER CONDITION.

PART 2.00 PRODUCTS

2.01 MATERIALS

A. CONCRETE PIPE:
   1. CONCRETE PIPE SHALL BE REINFORCED CONCRETE CULVERT PIPE CONFORMING TO ASTM DESIGNATION C–76, TABLE III, EXCEPT WHEN OTHERWISE INDICATED ON THE DRAWINGS. REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION C–507, CLASS HE III. ALL CONCRETE PIPE SHALL BE FURNISHED WITHOUT LIFTING HOLES.
   2. CONCRETE PIPE JOINTS SHALL HAVE A CONTINUOUS O–RING RUBBER GASKET WHICH FITS SNUGLY IN THE ANNULAR SPACE BETWEEN THE BEVELED SURFACES OF THE TONGUE AND GROOVE ENDS OF THE PIPE TO FORM A FLEXIBLE WATERTIGHT JOINT UNDER ALL CONDITIONS OF SERVICE. THERE SHALL BE NOT EXPOSED METAL IN THE JOINTS. ELLIPTICAL CONCRETE PIPE JOINTS SHALL BE WRAPPED WITH TYPAR (STYLE 3401), OR APPROVED EQUAL, WITH THE MATERIAL EXTENDING A MINIMUM OF TWO (2) FEET ON BOTH SIDES OF THE JOINT AND A TWO (2) FOOT OVERLAP ON THE TOP. PIPE JOINTS AND RUBBER GASKETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C443.

B. ZINC COATED CORRUGATED IRON OR STEEL CULVERT PIPE: ZINC COATED (GALVANIZED) CORRUGATED IRON OR STEEL CULVERT PIPE, PIPE ARCH AND UNDERDRAIN PERFORATED PIPE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M–36. BITUMINOUS COATED PIPE SHALL ALSO BE IN CONFORMANCE WITH THE REQUIREMENTS OF AASHTO DESIGNATION M–190, TYPE D (FULLY COATED AND FULLY PAVED).

C. SMOOTH LINED POLYMER COATED CORRUGATED METAL PIPE. SMOOTH LINED CORRUGATED PIPE SHALL BE COMPOSED OF A SMOOTH LINER AND HELICALLY CORRUGATED SHELL INTEGRALLY ATTACHED AT HELICAL LOCK SEAMS SPACED NOT MORE THAN 30 INCHES APART AND EXTENDING FROM END TO END OF EACH LENGTH OF PIPE AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M–245. METAL SHEETS SHALL BE PRECOATED ON BOTH SURFACES AND CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M–246, EXCEPT THE COLOR NEED NOT BE BLACK. THE TOTAL METAL THICKNESS OF THE NONPRECOATED SHEETS FOR THE SHELL AND LINER SHALL NOT BE LESS THAN THE GAUGE SHOWN IN THE DRAWINGS.

D. SMOOTH LINED CORRUGATED ALUMINUM PIPE: SMOOTH LINED CORRUGATED ALUMINUM PIPE SHALL BE COMPOSED OF A SMOOTH LINER AND HELICALLY CORRUGATED SHELL WITH ALTERNATE ATTACHED AT HELICAL LOCK SEAMS SPACED NOT MORE THAN 30 INCHES APART AND EXTENDING FROM END TO END OF EACH LENGTH OF PIPE AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M–196. THE TOTAL METAL THICKNESS OF THE SHEETS FOR THE SHELL AND LINER SHALL NOT BE LESS THAN THE GAUGES INDICATED IN THE DRAWINGS FOR THE RESPECTIVE SIZES.

E. CORRUGATED ALUMINUM ALLOY CULVERT PIPE: CORRUGATED ALUMINUM ALLOY CULVERT PIPE, ARCH PIPE AND UNDERDRAIN PERFORATED PIPE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M–196.

F. ALUMINUM COATED CORRUGATED STEEL PIPE AND PIPE ARCH: ALUMINUM COATED CORRUGATED STEEL PIPE AND PIPE ARCH SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M–36 AND SHALL BE FABRICATED FROM SHEET THAT CONFORMS TO AASHTO DESIGNATION M–274. CORRUGATIONS AND PIPE GAUGE SHALL BE AS INDICATED IN THE DRAWINGS. ON EACH END OF PIPE SHALL BE TWO ROLLED ANNULAR CORRUGATIONS TO FACILITATE BAND CONNECTION. CONNECTING BANDS SHALL BE MINIMUM 16–GAUGE THICKNESS.

G. CORRUGATED PIPE WATERTIGHT COUPLING BANDS:
   1. SMOOTH LINED CORRUGATED PIPE SHALL BE FIELD JOINTED WITH A SMOOTH LOCKING BAND NOT LESS THAN 12 INCHES WIDE FOR CULVERTS WITH DIAMETERS OF 8 INCHES TO 60 INCHES INCLUSIVE, AND NOT LESS THAN 24 INCHES WIDE FOR CULVERTS WITH DIAMETERS GREATER THAN 60 INCHES.
   2. CELLULAR RUBBER GASKETS SHALL CONFORM TO ASTM DESIGNATION D–1056, SPONGE AND EXPANDED CELLULAR RUBBER PRODUCTS, GRADE NO. SCE 41 AND SHALL BE 1 INCH THICK FOR 1/2 INCH DEPTH CORRUGATIONS AND 1–1/2 INCHES THICK FOR 1 INCH DEPTH CORRUGATIONS AND 7 INCHES WIDE FOR PIPE OVER 60 INCHES IN DIAMETER. THE GASKET SHALL BE STRETCHED NOT MORE THAN 20 PERCENT OF ITS ORIGINAL CIRCUMFERENCE WHEN SEATED ON THE PIPE PRIOR TO PLACING THE BAND.OTHER CORRUGATED PIPE FIELD JOINTS SHALL BE COUPLED WITH BANDS THAT CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M–36 FOR STEEL PIPE AND M–196 FOR ALUMINUM PIPE.

H. BRICK: BRICK FOR DRAINAGE STRUCTURES SHALL BE DENSE, HARD BURNED, SHALE OR CLAY BRICK CONFORMING TO ASTM DESIGNATION C–32, GRADE MM OR C–62, GRADE MW, EXCEPT THAT BRICK ABSORPTION SHALL BE BETWEEN FIVE AND TWENTY–FIVE GRAMS OF WATER ABSORBED IN ONE MINUTE BY DRIED BRICK, SET FLAT FACE DOWN, IN 1/8 INCH OF WATER.

I. CEMENT MORTAR: CEMENT MORTAR FOR MANHOLE CONSTRUCTION SHALL BE ONE PART CEMENT AND TWO PARTS CLEAN SHARP SAND TO WHICH MAY BE ADDED LIME IN THE AMOUNT OF NOT OVER TWENTY–FIVE PERCENT VOLUME OF CEMENT. IT SHALL BE MIXED DRY AND THEN WETTED TO PROPER CONSISTENCY FOR USE. NO MORTARS THAT HAVE STOOD FOR MORE THAN ONE HOUR SHALL BE USED.

J. CONCRETE: CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 03000 – CONCRETE AND UNLESS OTHERWISE SPECIFIED, ALL CONCRETE SHALL BE CLASS B.

K. PRECAST CONCRETE UNITS: PRECAST CONCRETE DRAINAGE STRUCTURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM DESIGNATION C–478. THE DESIGN AND FABRICATION OF PRECAST UNITS SHALL BE AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

L. CAST–IN–PLACE UNITS: CAST–IN–PLACE CONCRETE DRAINAGE INLETS AND OTHER STRUCTURES SHALL BE CONSTRUCTED ACCORDING TO THE DRAWINGS AND IN CONFORMANCE WITH THE APPLICABLE REQUIREMENTS OF SECTION 03000 – CONCRETE. CONCRETE FOR CAST–IN–PLACE UNITS SHALL BE CLASS A.

M. CASTINGS: CASTINGS FOR INLETS AND OTHER ITEMS SHALL CONFORM TO THE ASTM DESIGNATION A, CLASS 25. CASTINGS SHALL BE TRUE TO PATTERN IN FORM AND DIMENSIONS AND FREE OF POURING FAULTS AND OTHER DEFECTS IN POSITIONS WHICH WOULD IMPAIR THEIR STRENGTH OR OTHERWISE MAKE THEM UNFIT FOR THE SERVICE INTENDED. NO PLUGGING OR FILLING WILL BE ALLOWED. CASTING PATTERNS SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS.

N. CORRUGATED POLYETHYLENE PIPE WITH SMOOTH INTERIOR SHALL BE THAT MANUFACTURED BY ADVANCE DRAINAGE SYSTEMS (N–12) OR EQUAL. PIPE AND JOINTS SHALL BE WATERTIGHT AND MOST ASTM D3212, AASHTO M252, TYPE "S", AND AASHTO M294, TYPE "S".

PART 3.00 EXECUTION

3.01 PREPARATION

A. CLEARING: THE CONTRACTOR SHALL PERFORM ALL NECESSARY CLEARING OPERATIONS FOR THE INSTALLATION OF THE STORM DRAINAGE STRUCTURES, PIPE AND FITTINGS AS SPECIFIED IN SECTION 02210 – SITE EARTHWORK, SECTION 02220 – STRUCTURE EXCAVATION AND BACKFILL AND SECTION 02221– TRENCHING, BACKFILLING AND COMPACTION FOR UTILITY AND DRAINAGE SYSTEMS.

3.02 PERFORMANCE

A. THE CONTRACTOR SHALL PERFORM ALL NECESSARY OPERATIONS, SUCH AS EXCAVATION, DEWATERING, FOUNDATION PREPARATION FOR STRUCTURES, PIPE BEDDING, BACKFILLING, BACKFILL COMPACTION, ETC., FOR THE PROPER INSTALLATION OF THE STORM DRAINAGE STRUCTURES, PIPE AND FITTINGS AS SPECIFIED IN SECTION 02220–STRUCTURE EXCAVATION AND BACKFILL, AND SECTION 02221–TRENCHING, BACKFILLING AND COMPACTION FOR UTILITY AND DRAINAGE SYSTEMS.

B. INSTALLATION
   1. LAYING CONCRETE PIPE:
      A. ALL PIPE SHALL BE CAREFULLY LAID TRUE TO THE LINE AND GRADE SHOWN ON THE DRAWINGS. ANY DEVIATION FROM TRUE ALIGNMENT OR GRADE WHICH WOULD RESULT IN A DISPLACEMENT FROM THE NORMAL POSITION OF THE GASKET OF AS MUCH AS 1/4 INCH, OR WHICH WOULD PRODUCE A GAP EXCEEDING 1/2 INCH BETWEEN SECTIONS OR PIPE FOR MORE THAN 1/3 OF THE CIRCUMFERENCE OF THE INSIDE OF THE PIPE, WILL NOT BE ACCEPTABLE AND WHERE SUCH OCCURS, THE PIPE SHALL BE RELAID WITHOUT ADDITIONAL COMPENSATION. NO MORTAR, JOINT COMPOUND, OR OTHER FILLER WHICH WOULD TEND TO RESTRICT THE FLEXIBILITY OF THE GASKET JOINT SHALL BE APPLIED TO THE GAP. PIPES HAVING DEFECTS THAT HAVE NOT CAUSED THEIR REJECTION ARE TO BE SO LAID THAT THESE DEFECTS WILL BE IN THE UPPER HALF OF THE PIPE.
      B. BEFORE INSTALLATION OF THE PIPE GASKET, THE GASKET AND THE SURFACE OF THE PIPE JOINT, INCLUDING THE GASKET RECESS SHALL BE CLEAN AND FREE FROM GRIT, DIRT, OR OTHER FOREIGN MATTER AT THE TIME THE JOINTS ARE MADE. IN ORDER TO FACILITATE CLOSURE OF THE JOINT, APPLICATION OF AN APPROVED VEGETABLE SOAP LUBRICANT IMMEDIATELY PRIOR TO CLOSING OF THE JOINT WILL BE PERMITTED.
      C. ALL PIPES SHALL BE LAID WITH BELLS OR GROOVES UPHILL. AS THE PIPES ARE LAID THROUGHOUT THE WORK, THEY MUST BE THOROUGHLY CLEANED AND PROTECTED FROM DIRT AND WATER. NO LENGTH OF PIPE SHALL BE LAID UNTIL THE TWO PRECEDING LENGTHS HAVE BEEN THOROUGHLY EMBEDDED IN PLACE SO AS TO PREVENT ANY MOVEMENT OR DISTURBANCE OF THE FINISHED JOINT. NO WALKING ON OR WORKING OVER THE PIPES AFTER THEY ARE LAID, EXCEPT AS MAY BE NECESSARY IN TAMPING EARTH AND REFILLING, WILL BE PERMITTED UNTIL THEY ARE COVERED TO A DEPTH OF ONE FOOT. FILL PLACED AROUND THE PIPE SHALL BE DEPOSITED ON BOTH SIDES SIMULTANEOUSLY TO APPROXIMATELY THE SAME ELEVATION AND UNIFORMLY COMPACTED. WHENEVER THE PIPE LAYING IS DISCONTINUED, AS AT NIGHT, THE UNFINISHED END IS TO BE SECURELY PROTECTED FROM DISPLACEMENT DUE TO CAVING OF THE BANKS OR FROM OTHER INJURY AND A SUITABLE STOPPER IS TO BE INSERTED THEREIN.
   2. LAYING CORRUGATED PIPE:
      A. ALL CORRUGATED PIPE SHALL BE CAREFULLY LAID, TRUE TO THE LINE AND GRADE SHOWN ON THE DRAWINGS. THE PIPE GASKET AND COUPLING BAND SHALL BE, CENTERED OVER THE JOINT WITH THE COUPLING BANK BOLTS SECURELY TIGHTENED WITHOUT CUTTING THE GASKET.
      B. FILL PLACED AROUND THE PIPE SHALL BE DEPOSITED ON BOTH SIDES SIMULTANEOUSLY TO, APPROXIMATELY THE SAME ELEVATION AND UNIFORMLY COMPACTED. WHENEVER THE PIPE LAYING IS DISCONTINUED, AS AT NIGHT, THE UNFINISHED END IS TO BE SECURELY PROTECTED FROM DISPLACEMENT DUE TO CAVING OF THE BANKS OR FROM OTHER INJURY AND A SUITABLE STOPPER IS TO BE INSERTED THEREIN.
   3. DRAINAGE STRUCTURES:
      A. CONCRETE INLETS OR OTHER STRUCTURES SHALL BE CONSTRUCTED IN CONFORMITY WITH THE DRAWINGS. FORMS SHALL BE DESIGNED AND CONSTRUCTED SO THAT THEY MAY BE REMOVED WITHOUT INJURY TO THE CONCRETE AND SHALL BE LEFT IN PLACE FOR AT LEAST 24 HOURS AFTER CONCRETE IS POURED. CONCRETE SHALL BE THOROUGHLY TAMPED AND SHALL BE CURED FOR AT LEAST 5 DAYS AFTER REMOVAL OF FORMS. HONEYCOMB PLACES SHALL BE THOROUGHLY CLEANED, SATURATED WITH WATER AND POINTED UP WITH MORTAR.
      B. PRECAST INLETS OR OTHER STRUCTURES MAY BE USED IN LIEU OF CAST–IN–PLACE STRUCTURES. GRATES ARE TO BE SET IN PLACE IN MORTAR TO THE PROPER LINE AND GRADE.

3.03 TESTING STRUCTURES

A. LEAKAGE: THE WATERTIGHTNESS OF MANHOLES AND INLETS (EXCEPT FOR BOTTOMLESS TYPES) MAY BE TESTED, AT THE ENGINEER'S OPTION, AT THE TIME THE STRUCTURE IS COMPLETED AND BACKFILLED. THE TEST PROCEDURE IS AS FOLLOWS:
   1. FILL THE STRUCTURES WITH WATER TO AN ELEVATION 1 FOOT BELOW THE START OF THE CONE SECTION WITH A MINIMUM DEPTH OF 4 FEET AND A MAXIMUM DEPTH OF 20 FEET.
   2. PLUG ALL INLETS AND OUTLETS WITH APPROVED STOPPERS OR PLUGS.
   3. RECORD THE WATER SURFACE DROP DURING A 15–MINUTE PERIOD. THE MAXIMUM ALLOWABLE DROP IN WATER SURFACE IS 1/2 INCH FOR EACH 15–MINUTE PERIOD. IF THE LEAKAGE EXCEEDS THIS RATE, THE CONTRACTOR SHALL REPAIR OR REPLACE THE STRUCTURE SO AS TO PROVIDE A STRUCTURE WHICH WILL MEET THE REQUIRED WATERTIGHTNESS STANDARDS.

END OF SECTION

B. COPPER PIPE: COPPER PIPE OR TUBING FOR UNDERGROUND INSTALLATION SHALL BE TYPE K, AND SHALL CONFORM TO REQUIREMENTS OF ASTM DESIGNATION B 251. FITTINGS SHALL BE BRASS WITH APPROVED COMPRESSION OR FLARE TYPE CONNECTIONS.

C. GALVANIZED STEEL PIPE
   1. PIPE MATERIAL: GALVANIZED STEEL PIPE SHALL BE SCHEDULE 40 AND CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION A 120.
   2. FITTINGS: FITTINGS FOR GALVANIZED STEEL PIPE SHALL BE GALVANIZED MALLEABLE IRON, 150 POUND, TYPE U, CONFORMING TO FEDERAL SPECIFICATION WW–P–521.
   3. JOINTS: JOINTS SHALL BE STANDARD SCREW THREAD TYPE.

D. POLYETHYLENE TUBING: POLYETHYLENE TUBING FOR POTABLE SERVICE LINES SHALL BE MUNICIPAL SERVICE COPPER TUBE SIZED AND APPROVED FOR POTABLE WATER USE BY THE NATIONAL SANITATION FOUNDATION. TUBING SHALL BEAR THE NSF SEAL AND CONFORM TO THE REQUIREMENTS OF AWWA C901/ASTM D 2737, AND SHALL HAVE A MINIMUM PRESSURE CLASS OF 160 WITH DR 9. POLYETHYLENE MATERIALS SHALL BE PE 3406 AND SHALL CONFORM TO ASTM D 3350.

E. POLYETHYLENE PRESSURE PIPE: POLYETHYLENE PRESSURE PIPE FOR SERVICE LINES SHALL BE IRON PIPE SIZED AND APPROVED FOR POTABLE WATER USE BY THE NATIONAL SANITATION FOUNDATION. PIPE SHALL BEAR THE NSF SEAL AND CONFORM TO THE REQUIREMENTS OF AWWA C901/ASTM D 2239, AND SHALL HAVE A MINIMUM PRESSURE CLASS OF 160 WITH IDR 7. POLYETHYLENE MATERIALS SHALL BE PE 3406 AND SHALL CONFORM TO ASTM D 3350.

PART 3.00 EXECUTION

3.01 PREPARATION

A. CLEARING: THE CONTRACTOR SHALL PERFORM ALL NECESSARY CLEARING OPERATIONS FOR THE INSTALLATION OF THE WATER PIPE AND APPURTENANCES AS SPECIFIED IN SECTION 02221TRENCHING, BACKFILLING AND COMPACTION FOR UTILITY SYSTEMS.

B. CLEANLINESS: THE INTERIOR OF THE PIPES SHALL BE THOROUGHLY CLEANED OF ALL FOREIGN MATTER BEFORE BEING LOWERED INTO THE TRENCH AND SHALL BE KEPT CLEAN DURING LAYING OPERATIONS BY MEANS OF PLUGS APPROVED BY THE ENGINEER.

3.02 PERFORMANCE

A. THE CONTRACTOR SHALL PERFORM ALL NECESSARY OPERATIONS, SUCH AS EXCAVATION, DEWATERING, FOUNDATION PREPARATION, PIPE BEDDING, BACKFILLING, BACKFILL COMPACTION, ETC., FOR THE PROPER INSTALLATION OF THE WATER PIPE AS SPECIFIED IN SECTION 02221– TRENCHING, BACKFILLING AND COMPACTION FOR UTILITY SYSTEMS.

B. WATER IN EXCAVATION: WATER SHALL NOT BE ALLOWED IN THE TRENCHES WHILE THE PIPES ARE BEING LAID AND/OR TESTED. THE CONTRACTOR SHALL NOT OPEN MORE TRENCH THAN THE AVAILABLE PUMPING FACILITIES ARE ABLE TO DEWATER. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR DISPOSING OF ALL WATER SO AS NOT TO INJURE OR INTERFERE WITH THE NORMAL DRAINAGE OF THE TERRITORY, AND SO AS TO NOT CAUSE DAMAGE TO EXISTING STRUCTURES. IN NO CASE SHALL THE PIPELINES BEING INSTALLED BE USED AS DRAINS FOR SUCH WATER, AND THE ENDS OF THE PIPE SHALL BE KEPT PROPERLY AND ADEQUATELY BLOCKED DURING CONSTRUCTION BY THE USE OF STOPPERS APPROVED BY THE ENGINEER. ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO PREVENT THE ENTRANCE OF MUD, SAND, OR OTHER OBSTRUCTING MATTER INTO THE PIPELINES.

C. CLEAN UP: DURING THE PROGRESS OF WORK, THE CONTRACTOR SHALL CLEAN UP THE WORK AREA AS EACH SECTION OF PIPE IS COMPLETED AND TESTED. UPON COMPLETION OF THE WORK, ALL TRASH, DEBRIS AND EXCESS MATERIAL MUST BE HAULED AWAY AND DISPOSED OF TO THE SATISFACTION OF THE ENGINEER. THE COMPLETED WORK SHALL BE CLEARED AND GRADED TO A CONDITION AT LEAST EQUAL TO THAT EXISTING BEFORE THE START OF CONSTRUCTION.

3.03 INSTALLATION

A. PIPE:
   1. GRADIENT: LINES SHALL BE LAID STRAIGHT AND TO GRADE, AS INDICATED ON THE DRAWNINGS, WITH A MINIMUM OF 36 INCHES OF COVER OR DEEPER IF REQUIRED BY LOCAL FROST DEPTH, MAINTAINED WITH RESPECT TO FINISH GRADE.
   2. PIPE JOINT DEFLECTION: WHENEVER IT IS DESIRABLE TO DEFLECT PIPE, THE AMOUNT OF DEFLECTION SHALL NOT EXCEED THE MAXIMUM LIMITS AS SHOWN IN AWWA STANDARD C600 FOR DUCTILE IRON PIPE AND THE MAXIMUM LIMITS AS ESTABLISHED BY THE MANUFACTURER OF PVC PIPE.
   3. REJECTS: ANY PIPE FOUND DEFECTIVE SHALL BE IMMEDIATELY REMOVED AND REPLACED WITH SOUND PIPE AT THE CONTRACTOR'S EXPENSE.
   4. ANCHORS: CONCRETE THRUST BLOCKS SHALL BE PLACED AT ALL BENDS, TEES, PLUGS AND OTHER FITTINGS TO PROVIDE LATERAL SUPPORT, EXCEPT WHEN RESTRAINED JOINTS ARE SPECIFIED. THRUST BLOCKS SHALL CONFORM TO THE DETAILS SHOWN ON THE DRAWINGS AND SHALL BE OF CLASS C CONCRETE.

B. DUCTILE IRON PIPE JOINTS:
   1. MECHANICAL JOINTS: ALL TYPES OF MECHANICAL JOINT PIPES SHALL BE LAID AND JOINTED IN FULL CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS, WHICH SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE WORK IS BEGUN,
   2. PUSH–ON JOINTS: PUSH–ON JOINTS SHALL BE MADE IN STRICT, COMPLETE COMPLIANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. LUBRICANT, IF REQUIRED, SHALL BE AN INERT, NONTOXIC, WATER–SOLUBLE COMPOUND INCAPABLE OF HARBORING, SUPPORTING, OR CULTURING BACTERIAL LIFE. LUBRICANT IS AS SPECIFIED BY ANSI/NSF61.

C. CONCRETE ENCASEMENT:
   1. CONCRETE ENCASEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS SHOWN ON THE DRAWINGS AND SHALL BE CONSTRUCTED OF CLASS C CONCRETE.
   2. THE POINTS OF BEGINNING AND ENDING OF PIPE ENCASEMENT SHALL BE NOT MORE THAN 6 INCHES FROM A PIPE JOINT TO PROTECT THE PIPE FROM CRACKING DUE TO UNEVEN SETTLEMENT OF ITS FOUNDATION OR THE EFFECTS OF SUPERIMPOSED LIVE LOADS.

D. SERVICE CONNECTIONS
   1. SERVICE CONNECTIONS OF THE SIZE AND TYPE CALLED FOR ON THE DRAWINGS SHALL BE PROVIDED PER LOCAL UTILITY STANDARDS.
   2. CONNECTIONS TO WATER MAINS 4 INCHES AND LARGER SHALL BE MADE BY DRILLING THE APPROPRIATE SIZE HOLES AND INSTALLING SERVICE SADDLES. SERVICE TO SMALLER PIPE SIZES SHALL BE ACCOMPLISHED BY IN–LINE FITTINGS.
   3. ON CURBED STREETS, THE EXACT LOCATION FOR EACH SERVICE CONNECTION SHALL BE MARKED BY ETCHING OR CUTTING A "W" IN THE CONCRETE CURB WHERE NO CURB EXISTS OR IS PLANNED, LOCATIONS SHALL BE MARKED BY A METHOD APPROVED BY THE ENGINEER.

E. ROADWAY CROSSING:
   1. ROADWAY CROSSINGS WHICH REQUIRE JACKING AND BORING, AS IDENTIFIED ON THE DRAWINGS, SHALL USE STEEL CASING AND JACKING PROCEDURES CONFORMING TO THE REQUIREMENTS OF THE STATE DEPARTMENT OF TRANSPORTATION HAVING JURISDICTION AS OUTLINED IN UTILITY ACCOMMODATION POLICY AND ANY SUPPLEMENTS THERETO. RIGHT–OF–WAY PROPERTY AND SURFACE CONDITIONS SHALL BE RESTORED AT LEAST EQUAL TO THEIR ORIGINAL CONDITION.
   2. THE CONTRACTOR SHALL MAINTAIN BOTH THE ROADWAY AND SHALL KEEP ALL WORKMEN AND EQUIPMENT CLEAR OF THE PAVEMENT DURING THE WORK. ALL SAFETY REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION SHALL BE COMPLIED WITH.
   3. THE TOP OF THE CASING SHALL MAINTAIN A MINIMUM 30–INCH CLEARANCE UNDER THE ROADWAY SURFACE. PLASTIC SKIDS FOR SLIDING THE CARRIER PIPE THROUGH THE CASING SHALL BE SPACED PER THE MANUFACTURER'S RECOMMENDATIONS AND THE SKIDS SHALL BE PERMANENTLY BANDED TO THE CARRIER PIPE. AFTER THE CARRIER PIPE HAS BEEN INSTALLED FOR A DISTANCE OF 10 FEET, IT SHALL BE BLOCKED WITH AN 8–INCH WALL OF BRICK MASONRY WITH A WEEP HOLE INSTALLED NEAR THE BOTTOM OF EACH WALL. A VENT SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS.

F. CONNECTION TO EXISTING SYSTEM:
   1. ALL CONNECTIONS TO EXISTING MAINS SHALL BE MADE AFTER COMPLETE DISINFECTION OF THE PROPOSED SYSTEM AND SHALL BE MADE UNDER THE DIRECTION OF THE OWNER'S AND ENGINEER'S REPRESENTATIVE. THE COST OF THE WORK IN MAKING THE CONNECTIONS SHALL BE PAID FOR BY THE C

A.L.T.A. COMMITMENT
FIDELITY NATIONAL TITLE INSURANCE COMPANY
EXCEPTIONS – SCHEDULE B – SECTION II

The following items are exceptions outlined in Schedule B – Section II, A.L.T.A. Commitment for Title Insurance, Fidelity National Title Insurance Company, Commitment No. PAFN21–6525 JC, effective date September 14, 2021, Revised November 15, 2021.

9. *Subject to the provisions of the Acts of Assembly authorizing the PA Dept of Transportation to extend the boundaries of State Roads.*

   The right of way of Easton Road, S.R. 0611 is plotted.

10. *Terms and Conditions of Lease as set forth in Assignment of Lease and between Victoria Station Incorporated and Steak and Ale of Pennsylvania, Inc., dated 10/25/1983, a Memorandum thereof being recorded in Deed Book 4721 page 715.*

    This item is located on the subject property but is not plotted because it is blanket in nature.

11. *Maintenance Agreement as in Deed Book 4721 page 751.*

    This item is located on the subject property but is not plotted because it is blanket in nature. The Drainage Easement is plotted.

12. *Right of way granted to the Philadelphia Electric Co. as in Deed Book 4697 page 486.*

    This item is located on the subject property but is not plotted because it is blanket in nature.

13. *INTENTIONALLY DELETED*

14. *Title to that portion of the premises within the bed of Easton Road is subject to the public and private rights.*

    The right of way of Easton Road, S.R. 0611 is plotted.

15. *INTENTIONALLY DELETED*

16. *INTENTIONALLY DELETED*

17. *Right of way granted to the Philadelphia Electric Company as in Deed Book 1472, page 543, Deed Book 2481 page 267 and Deed Book 3341, page 30.*

    Deed Book 1472, page 543 is not located on the subject property and is not plotted. Deed Book 2481, page 267 is located on the subject property and is plotted. Deed Book 3341, page 30 is located on the subject property but is not plotted because it is blanket in nature.

18. *Right of way granted to the Bell Telephone Company as in Deed Book 3341 page 30 and Deed Book 3304 page 586.*

    This item is located on the subject property but is not plotted because it is blanket in nature.

19. *Conditions, easements, building setback lines etc. disclosed on Plan recorded in Plan Book 23 page 399.*

    This item is not located on the subject property but is plotted.

PROPERTY DESCRIPTION
(PER TITLE COMMITMENT)

ALL THAT CERTAIN tract of ground situate in the Township of Upper Moreland, Montgomery County, Commonwealth of Pennsylvania, bounded and described according to a Plan thereof made September 6, 1983, by Charles E. Shoemaker, Inc., Engineers and Surveyors of Abington, Pennsylvania, as follows:

BEGINNING at a point on the Southwesterly Pennsylvania Department of Transportation legal right of way line of Easton Road (PA RT 611) (LR 151) (80 feet wide at this point), said point being at the distance of 182.55 feet measured South 16 degrees 59 minutes 0 seconds East along the said Southwesterly Pennsylvania Department of Transportation legal right of way line of Easton Road from the point formed by the intersection of the said Southwesterly Pennsylvania Department of Transportation legal right of way line of Easton Road and the Southeasterly side of Sycamore Avenue (80 feet wide at this point); thence extending from the place of beginning South 16 degrees 59 minutes 0 seconds East along the said Southwesterly Pennsylvania Department of Transportation legal right of way line of Easton Road 165.33 feet to a point of curvature; thence Southeasterly still along the said Southwesterly Pennsylvania Department of Transportation legal right of way line of Easton Road on the arc of a circle curving to the right with a radius of 2,252.01 feet the arc distance of 171.78 feet to a point; thence South 77 degrees 23 minutes 30 seconds West 123.11 feet to a point; thence South 42 degrees 0 minutes 30 seconds West 165.31 feet to a point on the line dividing Lot No. 2 from Lot No. 1; thence along the same North 47 degrees 59 minutes 30 seconds West 215.83 feet to a point; thence North 42 degrees 7 minutes 0 seconds East 445.38 feet to a point on the said Southwesterly Pennsylvania Department of Transportation legal right of way line of Easton Road and place of beginning.

BEING Lot No. 2 on Plan of Property made for Dominic LaRosa.

BEING known as 2402 Easton Road.

BEING Tax Parcel No.: 59–00–05257–00–3.

BEING the same premises which Dominic P. LaRosa, Sr. – Grantor Retained Annuity Trust, Dominic P. LaRosa, Sr. aka Dominic LaRosa Trustee by his Agent Damian LaRosa duly constituted and appointed by Power of Attorney dated 1/26/2000, by Deed dated 12/2/2009 and recorded 12/18/2009 in Montgomery County in Deed Book 5754 page 745, conveyed unto The LaRosa Real Estate Investment Partnership, a PA limited partnership, in fee.

SURVEYOR CERTIFICATION

To: Darden Restaurants, Inc;
and Fidelity National Title Insurance Company:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 5, 6(a), 6(b), 7(a), 8, 9, 11(a), 11(b), 13, 16, 17, 19, and 20 of Table A thereof. The field work was completed on December 1, 2021.

Date of Plat or Map: _____

DRAFT

James R. Bruggeman, P.L.S.
Reg. No. SU–051772–E

COMMONWEALTH OF PENNSYLVANIA – REGISTERED PROFESSIONAL – JAMES R. BRUGGEMAN – LAND SURVEYOR – No. SU051772E

UTILITY CONTACTS

ELECTRIC:
PECO ENERGY
2301 MARKET STREET
PHILADELPHIA, PA 19103
800–494–4000

WATER:
AQUA PENNSYLVANIA INC.
762 LANCASTER AVE.
BRYN MAWR, PA 19010
877–987–2782

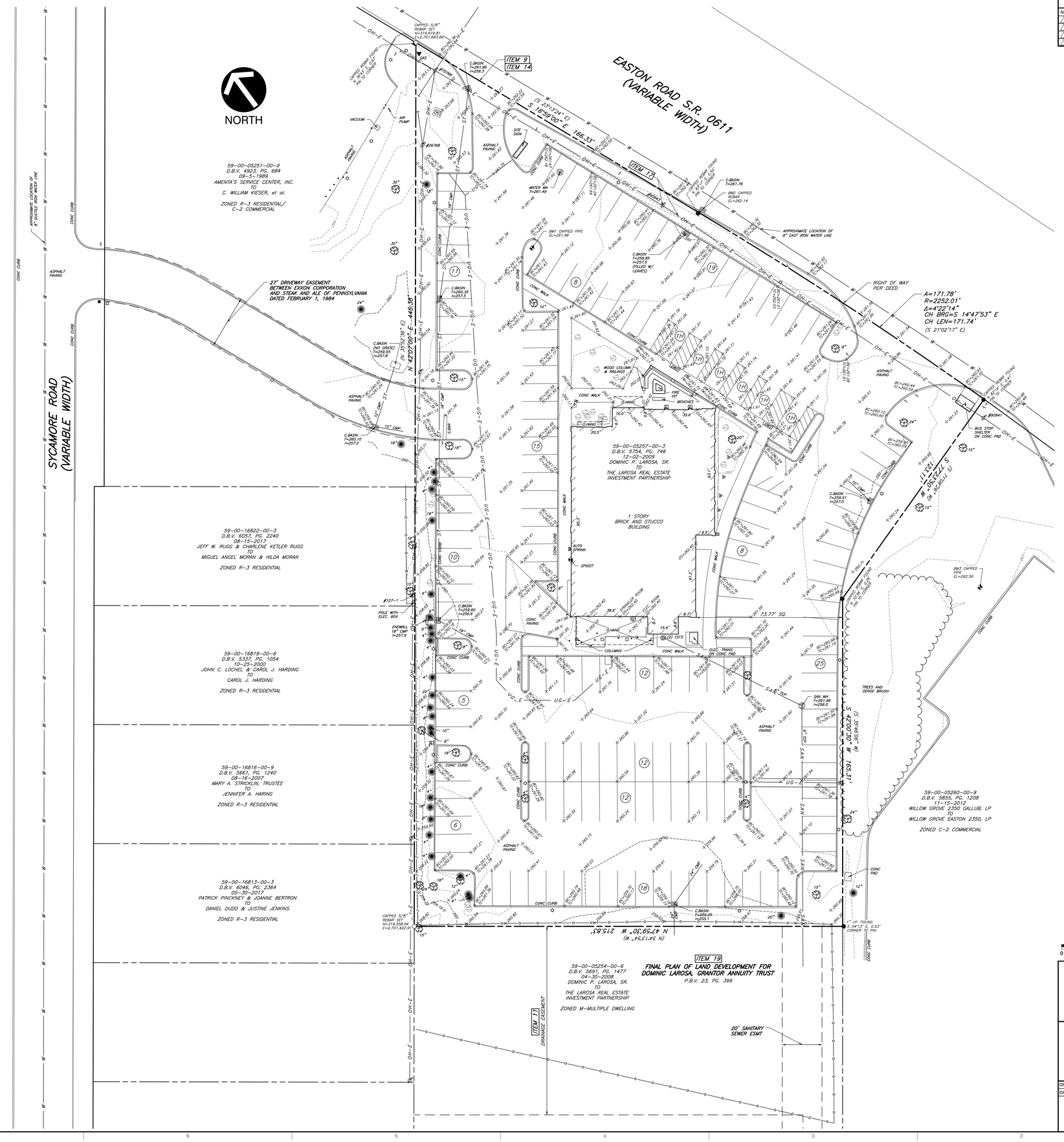
TELEPHONE/CABLE:
COMCAST CABLE
1701 JFK BOULEVARD
PHILADELPHIA, PA 19103
215–665–1700

SANITARY SEWER:
UPPER MORELAND–HATBORO
JOINT SEWER AUTHORITY
2875 TERWOOD ROAD
WILLOW GROVE, PA 19090
215–659–3975

NATURAL GAS:
PECO ENERGY
2301 MARKET STREET
PHILADELPHIA, PA 19103
800–494–4000

PA ONE CALL SERIAL NO. 20213201551

PENNSYLVANIA ACT 287 (1974) AS AMENDED BY ACT 50 (2017) REQUIRES NO LESS THAN 3 WORKING DAYS NOTICE NOR MORE THAN 10 WORKING DAYS NOTICE FROM EXCAVATORS WHO ARE ABOUT TO: DIG, DRILL, BLAST, AUGER, BORE, GRADE, TRENCH, OR DEMOLISH WHEN IN THE CONSTRUCTION PHASE. FOR LOCATION REQUESTS IN THE STATE OF PENNSYLVANIA, CALL TOLL FREE: 1–800–242–1776.
UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM PLANS AND MARKINGS AND WILL BE COMBINED WITH OBSERVED EVIDENCE OF UTILITIES TO DEVELOP A VIEW OF THOSE UNDERGROUND UTILITIES. OTHER UNDERGROUND UTILITIES MAY EXIST WHICH ARE NOT SHOWN AS A RESULT OF INFORMATION NOT BEING PROVIDED BY THE UTILITY OWNER. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY AND RELIABLY DEPICTED. WHERE ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, THE CLIENT OR CONTRACTOR IS ADVISED THAT EXCAVATION MAY BE NECESSARY.


NORTH
SYCAMORE ROAD (VARIABLE WIDTH)
EASTON ROAD S.R. 0611 (VARIABLE WIDTH)
S 16°59'00" E 165.33'
(S 20°-32'4" E)
ITEM 9
ITEM 14
ITEM 17
ITEM 19
ITEM 11
DRAINAGE EASEMENT
59–00–05251–00–9
D.B.V. 4923, PG. 684
09–5–1989
AMENTA'S SERVICE CENTER, INC.
TO
C. WILLIAM KIESER, et al.
ZONED R–3 RESIDENTIAL/ C–2 COMMERCIAL
59–00–16822–00–3
D.B.V. 6057, PG. 2240
08–15–2011
JEFF W. RUGG & CHARLENE KETLER RUGG
TO
MIGUEL ANGEL MORAN & HILDA MORAN
ZONED R–3 RESIDENTIAL
59–00–16819–00–6
D.B.V. 5317, PG. 1054
10–25–2000
JOHN C. LOCHEL & CAROL J. HARDING
TO
CAROL J. HARDING
ZONED R–3 RESIDENTIAL
59–00–16816–00–9
D.B.V. 5661, PG. 1240
08–16–2007
MARY A. STRICKLIN, TRUSTEE
TO
JENNIFER A. HARING
ZONED R–3 RESIDENTIAL
59–00–16813–00–3
D.B.V. 6046, PG. 2364
05–30–2017
PATRICK PINCKNEY & JOANNE BERTRON
TO
DANIEL DUDO & JUSTINE JENKINS
ZONED R–3 RESIDENTIAL
59–00–05257–00–3
D.B.V. 5754, PG. 746
12–02–2009
DOMINIC P. LAROSA, SR.
TO
THE LAROSA REAL ESTATE INVESTMENT PARTNERSHIP
1 STORY BRICK AND STUCCO BUILDING
59–00–05254–00–6
D.B.V. 5691, PG. 1477
04–30–2008
DOMINIC P. LAROSA, SR.
TO
THE LAROSA REAL ESTATE INVESTMENT PARTNERSHIP
ZONED M–MULTIPLE DWELLING
59–00–05260–00–9
D.B.V. 5855, PG. 1208
11–15–2012
WILLOW GROVE 2350 GALLUB, LP
TO
WILLOW GROVE EASTON 2350, LP
ZONED C–2 COMMERCIAL
FINAL PLAN OF LAND DEVELOPMENT FOR DOMINIC LAROSA, GRANTOR ANNUITY TRUST
P.B.V. 23, PG. 399
27' DRIVEWAY EASEMENT BETWEEN EXXON CORPORATION AND STEAK AND ALE OF PENNSYLVANIA DATED FEBRUARY 1, 1984
(N 35°30'36" E)
N 42°07'00" E 445.38'
A=171.78'
R=2252.01'
Δ=4°22'14"
CH BRG=S 14°47'53" E
CH LEN=171.74'
(S 21°02'17" E)
RIGHT OF WAY PER DEED
123.11'
(M 123.40'+/- S)
S 77°23'30" W
S 42°00'30" W 165.31'
(M S 42°00'30" W)
N 47°59'30" W 215.83'
(M N 47°59'30" W)
73.77' SQ.
TREES AND DENSE BRUSH
APPROXIMATE LOCATION OF 8" CAST IRON WATER LINE
APPROXIMATE LOCATION OF 8" CAST IRON WATER LINE
BUS STOP SHELTER ON CONC PAD
1 STORY BRICK AND STUCCO BUILDING
WOOD COLUMN & RAILINGS
BENCHES
FIRE PIT
SPIGOT
AUTO SPRINK.
SPRINKLER ROOM
ELEC. ROOM
ELEC. TRANS. ON CONC PAD
COLUMNS
SAN MH T=261.96 I=258.0
ELEC. TRANS. ON CONC PAD
CONC PAD
BM1 CAPPED PIPE EL=261.98
BM2 CAPPED REBAR EL=262.14
BM3 CAPPED PIPE EL=262.56
CAPPED 5/8" REBAR SET N=314,919.81 E=2,701,483.89'+/–
CAPPED 5/8" REBAR SET N=314,558.94 E=2,701,423.91'+/–
1" I.P. FOUND S 54°13' E 0.53' CORNER TO PIN
CAPPED REBAR FOUND N 47°-0' W 0.5' CORNER TO PIN
CAPPED REBAR FOUND N 42°-0' E 0.5' CORNER TO PIN
#26768
#27586
#30941
#127–1
VACUUM
AIR PUMP
SITE SIGN
WATER MH T=261.48
POLE WITH ELEC. BOX
ENDWALL 18" CMP I=257.9
C.BASIN T=261.98 I=259.3
C.BASIN T=259.60 I=256.6
C.BASIN T=260.35 I=257.5
C.BASIN (NO GRATE) T=259.55 I=257.8
C.BASIN T=260.10 I=257.2
C.BASIN T=259.85 I=257.5 (TILLED W/ LEWES)
C.BASIN T=259.51 I=257.0
C.BASIN T=259.25 I=255.1
SAN MH T=261.96 I=258.0
CONC CURB
CONC WALK
CONC PAVING
ASPHALT PAVING
ASPHALT SIDING
O.HANG
SIDEWALK
TYP. 24' WIDE DRIVEWAY
TYP. 30' WIDE DRIVEWAY
TYP. 36' WIDE DRIVEWAY
TYP. 42' WIDE DRIVEWAY
TYP. 48' WIDE DRIVEWAY
TYP. 54' WIDE DRIVEWAY
TYP. 60' WIDE DRIVEWAY
TYP. 66' WIDE DRIVEWAY
TYP. 72' WIDE DRIVEWAY
TYP. 78' WIDE DRIVEWAY
TYP.

Luminaire Schedule

Symbol	Qty	Label	Arrangement	LMF	Lum. Lumens	Lum. Watts	Part Number	BUG Rating
	2	4M-11L	SINGLE	1.000	10800	72	OSQL-B-11L-30K7-4M-UL-NM-__ w/OSQ-ML-B-DA-__	B2-U0-G2
	3	4M-11L-2(90)	2 @ 90°	1.000	10800	72	OSQL-B-11L-30K7-4M-UL-NM-__ w/OSQ-ML-B-DA-__	B2-U0-G2
	2	4M-11L-3(90)	3 @ 90°	1.000	10800	72	OSQL-B-11L-30K7-4M-UL-NM-__ w/OSQ-ML-B-DA-__	B2-U0-G2
	3	4M-11L B 2@90	2 @ 90 DEG	1.000	8300	72	OSQL-B-11L-30K7-4M-UL-NM-__ w/OSQ-ML-B-DA-__ + OSQ-BLSMF	B1-U0-G2

Calculation Summary; 1.00 LLF

Label	Units	Avg	Max	Min	Avg/Min	Max/Min
All Calc Points	Fc	1.13	5.5	0.0	N.A.	N.A.
Paved Parking_1	Fc	2.37	5.5	0.5	4.74	11.00

Mounting Height: 25' Pole + 3' Base

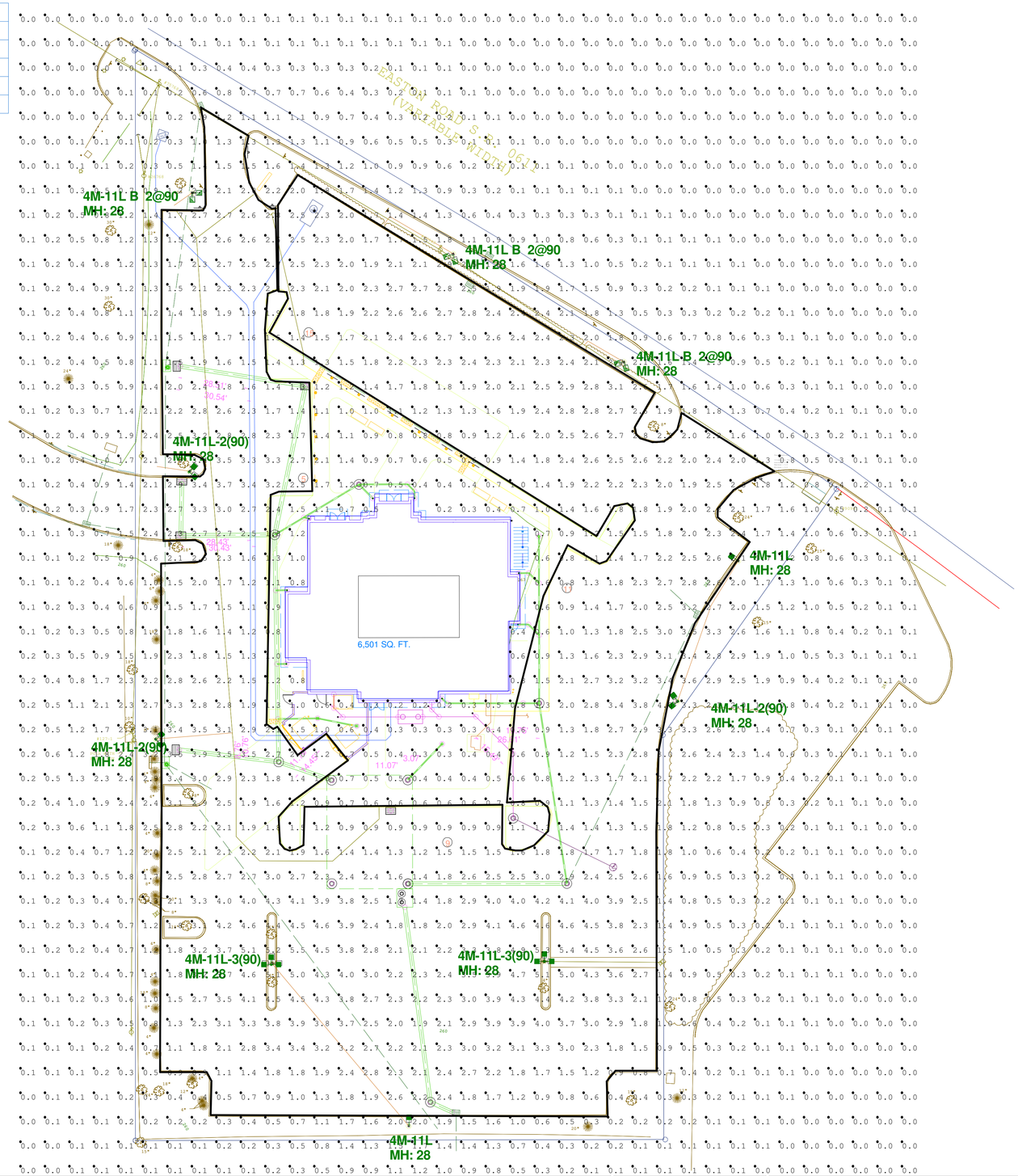
Pole Schedule
(2) CL-SSP-4011-25-D1-BZ (25' X 4" STEEL SQUARE POLE, Single)
(6) CL-SSP-4011-25-D3-BZ (25' X 4" STEEL SQUARE POLE, 2@90°)
(2) CL-SSP-4011-25-D5-BZ (25' X 4" STEEL SQUARE POLE, 3@90°)

Proposed poles meet 120MPH sustained winds.

Additional Equipment:
(20) OSQ-ML-DA__ (Direct Arm Mount)
(6) OSQ-BLSMF (Back light Shield)

*** CUSTOMER TO VERIFY ORDERING INFORMATION AND CATALOGUE NUMBER PRIOR TO PLACING ORDER ***

*** A Light by Others ***



CREE LIGHTING
A COMPANY OF IDEAL INDUSTRIES, INC.
9201 Washington Ave, Racine, WI 53406 https://creelighting.com - (800) 236-6800

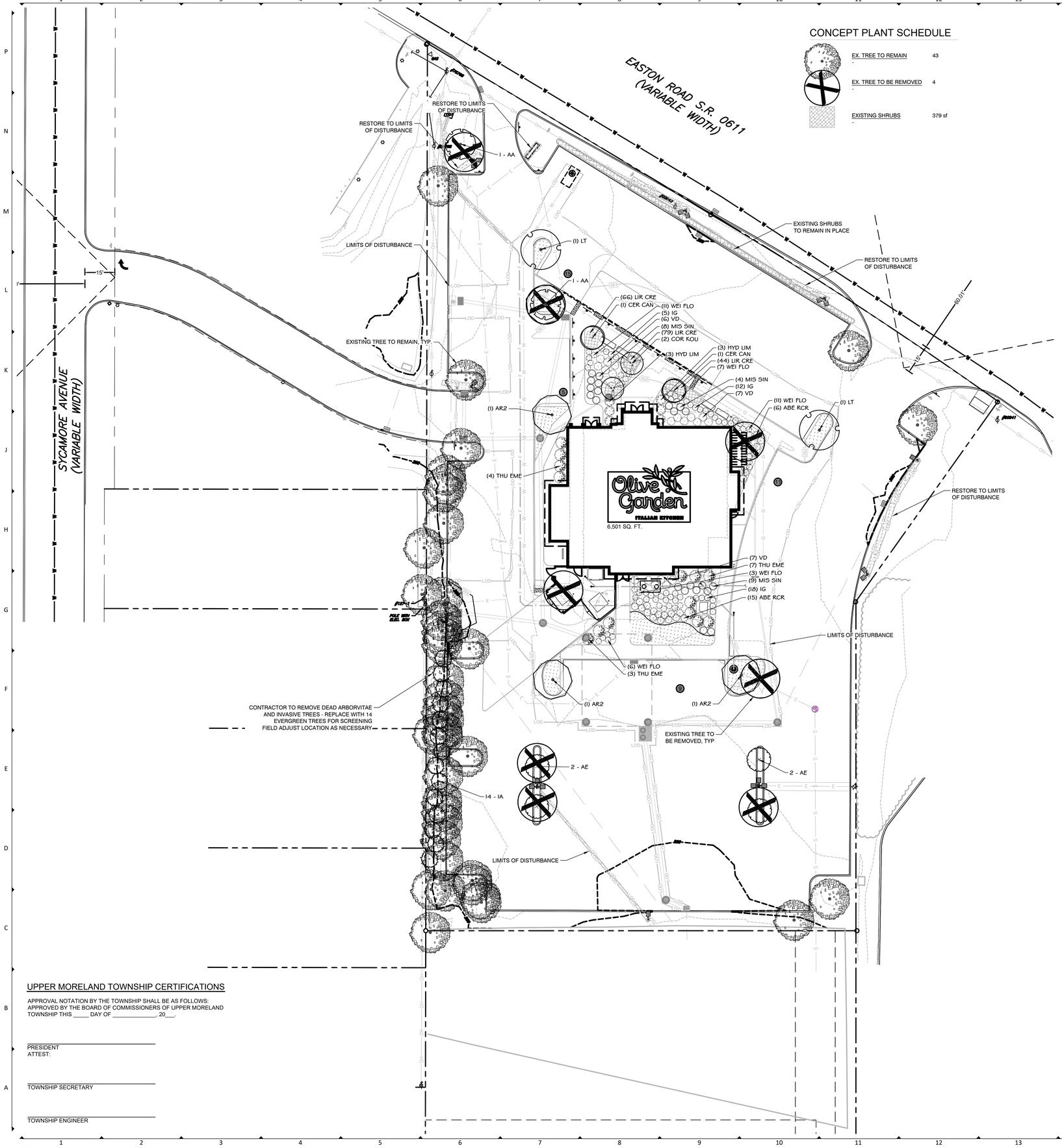
Illumination results shown on this lighting design are based on project parameters provided to Cree Lighting used inconjunction with luminaire test procedures conducted under laboratory conditions. Actual project conditions differing from these design parameters may affect field results. The customer is responsible for verifying dimensional accuracy along with compliance with any applicable electrical, lighting,or energy code.

Project Name: Olive Garden-2402 Easton Road PA

CASE # 00489070 | Footcandles calculated at grade | Filename: OLV-220331PSPALJSR2.AGI

Layout By:
Linda Schaller
Date:8/17/2022

Scale 1" = 25'
0 50 100



CONCEPT PLANT SCHEDULE

EX. TREE TO REMAIN	-	43
EX. TREE TO BE REMOVED	-	4
EXISTING SHRUBS	-	379 sf

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL / COMMON NAME	CAL.	CONT.	SIZE
	AE	4	Acer campestre 'Evelyn' TM Queen Elizabeth Hedge Maple	1.5" Cal.	Cont. or B&B	10-12` Ht,. 5-6` Spr.
	AR2	4	Acer rubrum `Red Sunset` Red Sunset Maple - Native	3" Cal.	Cont. or B&B	12-14` Ht,. 6-7` Spr.
	AA	2	Acer rubrum 'JFS-KW78' TM Armstrong Gold Red Maple	3" Cal.	Cont. or B&B	12-14` Ht,. 6-7` Spr.
	CER CAN	2	Cercis canadensis Eastern Redbud - Native	1.5" Cal.	Cont. or B&B	10-12` Ht,. 5-6` Spr.
	COR KOU	2	Cornus kousa Kousa Dogwood - Native	1.5" Cal.	Cont. or B&B	10-12` Ht,. 5-6` Spr.
	IA	14	Ilex opaca American Holly - Native	1.5" Cal.	Cont. or B&B	10-12` Ht,. 5-6` Spr.
	LT	2	Liriodendron tulipifera Tulip Poplar - Native	3" Cal.	Cont. or B&B	12-14` Ht,. 6-7` Spr.

SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER	SPACING	SIZE
	ABE RCR	21	Abelia x 'Rose Creek' Rose Creek Abelia	3 gal.	48" OC	18" Ht, 18" Spr.
	HYD LIM	6	Hydrangea paniculata `Limelight` Limelight Hydrangea	3 gal	60" O.C.	30" Ht., 24" Spr.
	IG	35	Ilex glabra Inkberry Holly - Native	5 gal.	36" OC	18" Ht, 18" Spr.
	MIS SIN	21	Miscanthus sinensis 'Caberet' Variegated Miscanthus	3 gal.	48" OC	18" Ht, 18" Spr.
	THU EME	14	Thuja 'Emerald Green' Emerald Arborvitae - Native	6` Ht.	Per Plan	6-8` Ht., 3-4` Spr.
	VD	20	Viburnum dentatum `Arrowwood` Arrowwood Viburnum - Native	5 gal.	Per Plan	30" Ht., 24" Spr.
	WEI FLO	43	Weigela florida 'SMNWFDFPD' TM Very Fine Wine Weigela	5 gal.	36" OC	30" Ht., 24" Spr.

GROUND COVERS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING	SIZE
	LIR CRE	240	Liriope spicata Creeping Lilyturf	4" Pot	12" O.C.	
	TURF	1,746 sf	Poa pratensis Kentucky Bluegrass	sod		

LANDSCAPE COMPLIANCE

ZONING:	C-2
PARKING AREA:	59,906 SF
MINIMUM LANDSCAPE AREA:	2,995 SF (5%)
LANDSCAPE AREA PROVIDED:	10,786 SF (18%)
STREET TREES:	338 LF 1 PER 40-60'
TREES REQUIRED:	9 TREES
TREES PROVIDED:	0 TREES - AREA TO REMAIN UNDISTURBED EXISTING STREET TREES ARE PROPOSED TO BE PRESERVED. EXISTING POWER LINES ALONG EASTON ROAD PREVENT INSTALLATION OF ADDITIONAL STREET TREES BEYOND THOSE PREVIOUSLY PROPOSED ON PRIOR DEVELOPMENT AND AS NOW EXIST.
SCREENING BUFFER:	26 EXISTING TREES TO REMAIN WHERE ARBORVITAE ARE TO REMAIN, CONFLICTING OVERHANGING BRANCHES FROM DECIDUOUS TREES SHOULD BE REMOVED. CONTRACTOR TO REMOVE EXISTING DEAD SHRUBS AND INVASIVE SPECIES. 14 SHRUBS PROVIDED TO FILL IN WHERE DEAD SHRUBS AND INVASIVE SPECIES ARE REMOVED.
INDIVIDUAL LOT LANDSCAPE:	1 PER 5,000 S.F.OF GROSS FLOOR AREA
GROSS FLOOR AREA:	6,501 SF
TREES REQUIRED:	2 TREES
TREES PROVIDED:	4 TREES
PARKING AREA LANDSCAPING:	1 PER ISLAND, 6 SHRUBS FOR EVERY 2 SPACES
PARKING AREA:	53,850 SF
LANDSCAPE AREA REQUIRED:	5,285 SF (10%)
LANDSCAPE AREA PROVIDED:	2,396 SF (4.5%) *
PARKING SPACES:	152 SPACES
TREES REQUIRED:	13 TREES
TREES PROVIDED:	17 TREES (9 EXISTING, 6 NEW)
SHRUBS PROVIDED:	EXISTING SHRUBS TO REMAIN IN PLACE
REPLACEMENT TREES:	1 REPLACEMENT TREE FOR EACH 8-23" TREE REMOVED 4, 8-23" TREES TO BE REMOVED
REPLACEMENT TREES REQUIRED	4 TREES
REPLACEMENT TREES PROVIDED	4 TREES

* EXISTING NON- CONFORMITY

UPPER MORELAND TOWNSHIP CERTIFICATIONS

APPROVAL NOTATION BY THE TOWNSHIP SHALL BE AS FOLLOWS:
APPROVED BY THE BOARD OF COMMISSIONERS OF UPPER MORELAND TOWNSHIP THIS ____ DAY OF _____, 20___.

_____
PRESIDENT
ATTEST:

_____
TOWNSHIP SECRETARY

_____
TOWNSHIP ENGINEER

Scale 1" = 20'

CORE STATES GROUP
201 S. Maple Avenue
Ambler, PA 19002
Phone (215) 809-2125
BSearcy@core-states.com

DOCUMENTS PREPARED BY CORESTATES, INC., INCLUDING THIS DOCUMENT, ARE TO BE USED ONLY FOR THE SPECIFIC PROJECT AND SPECIFIC USE FOR WHICH THEY WERE INTENDED. ANY EXTENSION OF USE TO ANY OTHER PROJECTS, BY OWNER OR BY OTHERS, OR ANY MODIFICATION OF DOCUMENTS WITHOUT WRITTEN CONSENT OF CORESTATES, INC. IS DONE UNLAWFULLY AND AT THE USERS OWN RISK. IF USED IN A WAY OTHER THAN THAT SPECIFICALLY INTENDED, USER WILL HOLD CORESTATES, INC. HARMLESS FROM ALL CLAIMS AND LOSSES.

Olive Garden ITALIAN KITCHEN

ENGINEER SEAL

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION
⚠ 08-18-2022
AGENCY REVISIONS

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD
WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing
LANDSCAPE PLANTING

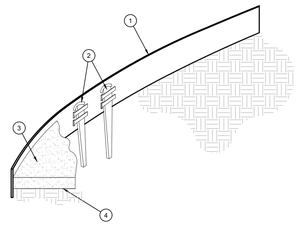
L1.1

PENNSYLVANIA KING SHEPLER REGISTERED LANDSCAPE ARCHITECT
Eric M. Shepler, R.L.A.
PA LICENSE #LA003179 08/22/22

EVERGREEN DESIGN GROUP
(800) 680-6630
1200 US Highway 22 E Suite 2000-2248
Bridgewater, NJ 08807
www.EvergreenDesignGroup.com

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

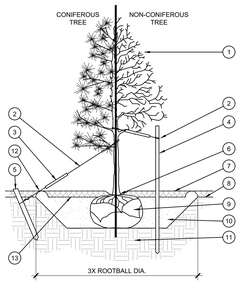
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND DESCRIPTION OF EXISTING UTILITIES AS SHOWN ON THESE DRAWINGS IS BASED ON RECORD DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THIS INFORMATION. IT IS THE CONTRACTOR'S APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.



1. ROLLED-TOP STEEL EDGING PER PLANS.
2. TAPERED STEEL STAKES.
3. MULCH, TYPE AND DEPTH PER PLANS.
4. FINISH GRADE.

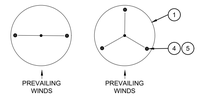
NOTES:
1) INSTALL EDGING SO THAT STAKES WILL BE ON INSIDE OF PLANTING BED.
2) BOTTOM OF EDGING SHALL BE BURIED A MINIMUM OF 1" BELOW FINISH GRADE.
3) TOP OF MULCH SHALL BE 1" LOWER THAN TOP OF EDGING.

D STEEL EDGING
SCALE: NOT TO SCALE



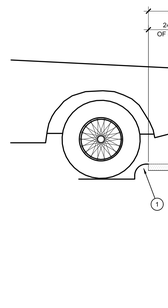
1. TREE CANOPY.
2. CINCH-TIES (24" BOX/2" CAL. TREES AND SMALLER) OR 12 GAUGE GALVANIZED WIRE WITH NYLON TREE STRAPS AT TREE AND STAKE (36" BOX/2.5" CAL. TREES AND LARGER). SECURE TIES OR STRAPS TO TRUNK JUST ABOVE LOWEST MAJOR BRANCHES.
3. 24" X 3/4" P.V.C. MARKERS OVER WIRES.
4. GREEN STEEL T-POSTS. EXTEND POSTS 12" MIN. INTO UNDISTURBED SOIL.
5. PRESSURE-TREATED WOOD DEADMAN, TWO PER TREE (MIN.). BURY OUTSIDE OF PLANTING PIT AND 18" MIN. INTO UNDISTURBED SOIL.
6. TRUNK FLARE.
7. MULCH, TYPE AND DEPTH PER PLANS. DO NOT PLACE MULCH WITHIN 6" OF TRUNK.
8. FINISH GRADE.
9. ROOT BALL.
10. BACKFILL. AMEND AND FERTILIZE ONLY AS RECOMMENDED IN SOIL FERTILITY ANALYSIS.
11. UNDISTURBED NATIVE SOIL.
12. 4" HIGH EARTHEN WATERING BASIN.
13. FINISH GRADE.

STAKING EXAMPLES (PLAN VIEW)



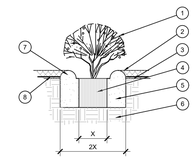
NOTES:
1. SCARIFY SIDES OF PLANTING PIT PRIOR TO SETTING TREE.
2. REMOVE EXCESS SOIL APPLIED ON TOP OF THE ROOTBALL THAT COVERS THE ROOT FLARE. THE PLANTING HOLE DEPTH SHALL BE SUCH THAT THE ROOTBALL RESTS ON UNDISTURBED SOIL, AND THE ROOT FLARE IS 2"-4" ABOVE FINISH GRADE.
3. FOR B&B TREES, CUT OFF BOTTOM 1/3 OF WIRE BASKET BEFORE PLACING TREE IN HOLE. CUT OFF AND REMOVE REMAINDER OF BASKET AFTER TREE IS SET IN HOLE. REMOVE ALL NYLON TIES, TWINE, ROPE, AND OTHER PACKING MATERIAL. REMOVE AS MUCH BURLAP FROM AROUND ROOTBALL AS IS PRACTICAL.
4. REMOVE ALL NURSERY STAKES AFTER PLANTING.
5. FOR TREES 36" BOX/2.5" CAL. AND LARGER, USE THREE STAKES OR DEADMEN (AS APPROPRIATE), SPACED EVENLY AROUND TREE.
6. STAKING SHALL BE TIGHT ENOUGH TO PREVENT TRUNK FROM BENDING, BUT LOOSE ENOUGH TO ALLOW SOME TRUNK MOVEMENT IN WIND.

A TREE PLANTING
SCALE: NOT TO SCALE



1. CURB.
2. MULCH LAYER.
3. PLANT.
4. TURF (WHERE SHOWN ON PLAN).

E PLANTING AT PARKING AREA
SCALE: NOT TO SCALE

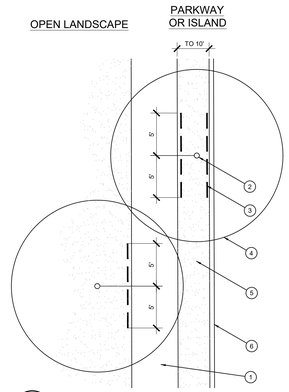


1. SHRUB, PERENNIAL, OR ORNAMENTAL GRASS.
2. MULCH, TYPE AND DEPTH PER PLANS. PLACE NO MORE THAN 1" OF MULCH WITHIN 6" OF PLANT CENTER.
3. FINISH GRADE.
4. ROOT BALL.
5. BACKFILL. AMEND AND FERTILIZE ONLY AS RECOMMENDED IN SOIL FERTILITY ANALYSIS.
6. UNDISTURBED NATIVE SOIL.
7. 3" HIGH EARTHEN WATERING BASIN.
8. WEED FABRIC UNDER MULCH.

B SHRUB AND GROUNDCOVER PLANTING
SCALE: NTS

OPEN LANDSCAPE

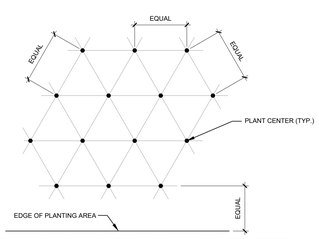
PARKWAY OR ISLAND



1. TYPICAL WALKWAY OR PAVING
2. TREE TRUNK
3. LINEAR ROOT BARRIER MATERIAL. SEE PLANTING NOTES FOR TYPE AND MANUFACTURER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
4. TREE CANOPY
5. TYPICAL PLANTING AREA
6. TYPICAL CURB AND GUTTER

NOTES:
1) INSTALL ROOT BARRIERS NEAR ALL NEWLY-PLANTED TREES THAT ARE LOCATED WITHIN FIVE (5) FEET OF PAVING OR CURBS. BARRIERS SHALL BE LOCATED IMMEDIATELY ADJACENT TO HARDSCAPE. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR USE ROOT BARRIERS OF A TYPE THAT COMPLETELY ENCIRCLE THE ROOTBALL.

F ROOT BARRIER - PLAN VIEW
SCALE: NOT TO SCALE



NOTE: ALL PLANTS SHALL BE PLANTED AT EQUAL TRIANGULAR SPACING (EXCEPT WHERE SHOWN ON PLANS AS INFORMAL GROUPINGS). REFER TO PLANT LEGEND FOR SPACING DISTANCE BETWEEN PLANTS.

1) STEP 1: DETERMINE TOTAL PLANTS FOR THE AREA WITH THE FOLLOWING FORMULA:
TOTAL AREA / AREA DIVIDER = TOTAL PLANTS

PLANT SPACING	AREA DIVIDER	PLANT SPACING	AREA DIVIDER
6"	0.22	18"	1.95
8"	0.39	24"	3.46
10"	0.60	30"	5.41
12"	0.87	36"	7.79
15"	1.35		

2) STEP 2: SUBTRACT THE ROW (S) OF PLANTS THAT WOULD OCCUR AT THE EDGE OF THE PLANTED AREA WITH THE FOLLOWING FORMULA: TOTAL PERIMETER LENGTH / PLANT SPACING = TOTAL PLANT SUBTRACTION

EXAMPLE: PLANTS AT 18" O.C. IN 100 SF PLANTING AREA, 40 LF PERIMETER
STEP 1: 100 SF/1.95 = 51 PLANTS
STEP 2: 51 PLANTS - (40 LF / 1.95 = 21 PLANTS) = 30 PLANTS TOTAL

C PLANT SPACING
SCALE: NTS

CORE STATES GROUP
201 S. Maple Avenue
Ambler, PA 19002
Phone (215) 809-2125
BSearcy@core-states.com

DOCUMENTS PREPARED BY CORESTATES, INC., INCLUDING THIS DOCUMENT, ARE TO BE USED ONLY FOR THE SPECIFIC PROJECT AND SPECIFIC USE FOR WHICH THEY WERE INTENDED. ANY EXTENSION OF USE TO ANY OTHER PROJECTS, BY OWNER OR BY OTHERS, SHALL BE AT OWNER'S OR USER'S SOLE RISK UNLESS WRITTEN CONSENT OF CORESTATES, INC. IS OBTAINED AND ANY SUCH USE IS UNLAWFULLY AND AT THE USERS OWN RISK. IF USED IN A WAY OTHER THAN THAT SPECIFICALLY INTENDED, USER WILL HOLD CORESTATES, INC. HARMLESS FROM ALL CLAIMS AND LOSSES.

ENGINEER SEAL

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date:	04.27.2022
REVISION INFORMATION	
1 08-18-2022 AGENCY REVISIONS	

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD
WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing

LANDSCAPE DETAILS & SPECIFICATIONS

L1.2

REGISTERED LANDSCAPE ARCHITECT
PENNSYLVANIA
ERIC SHIPLEY
Eric M. Shipley, R.L.A.
PA LICENSE #LA003179 08/22/22

EVERGREEN DESIGN GROUP
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Bridgewater, NJ 08807
www.EvergreenDesignGroup.com

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

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF EXISTING UTILITY LINES AS SHOWN ON THESE PLANS ARE APPROXIMATE ONLY AND ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS SHOWN ON THESE PLANS. IT SHALL BE THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

SECTION 02800
LANDSCAPE

PART 1.00 GENERAL

1.01 SCOPE OF WORK
A. This section covers furnishing and installing all landscape plants and nonplant materials covered by the drawings and these specifications. The work shall include materials, labor, equipment and services as described herein and indicated on the drawings. Also, the work shall include the maintenance of all plants and planting areas until acceptance by the Owner, and the fulfillment of all guarantee provisions as herein specified.

1.02 PLANTING LAYOUT
A. Before beginning work, the contractor shall investigate and verify, in the field, the existence and location of all underground utilities and irrigation piping, and take precautions to prevent their disturbance. It shall be the responsibility of the contractor to obtain all such information as it is made available. Plans and specifications of related work may be obtained from the owner.
B. The contractor shall locate all general reference points, take precautions to prevent their disturbance, perform the layout work, be responsible for all lines, elevations and measurements of work executed under the contract, exercise proper precaution to verify figures on drawings before laying out work and be responsible for any error resulting from failure to exercise such precaution. The contractor shall make field measurements for his own work and be responsible for its accuracy.
C. Discrepancies between conditions existing on the site and conditions indicated on the drawings shall be called to the attention of the owner before or at the time plant locations are staked out.
D. In the event of a variation between the plant list and the actual number of plants shown on the plans, the plans shall control.

1.03 HORTICULTURAL STANDARDS
A. Unless otherwise noted, plant material, including collected materials, shall be grade No. 1 or better as outlined under Grades and Standards for Nursery Plants, and shall also conform to American Standard for Nursery Stock, ANSI (American National Standards Institute, Inc.) Z60.1-1996 as approved by the American Association of Nurserymen.
B. All plant names shall conform to the names given in Standardized Plant Names, 1942 Edition, prepared by the American Joint Committee on Horticultural Nomenclature. Names of varieties not included therein shall conform generally with names accepted in the nursery trade. All plant materials shall be true to botanical, common and variety names. Botanical name shall have precedence over common name.
C. The landscape architect shall have the right, at any stage of the operations, to reject any and all work and materials which, in his opinion, do not meet with the requirements of these specifications. Such rejected material shall be removed from the site and acceptable material substituted in its place.

1.04 CERTIFICATES OF INSPECTION
A. All plant material shall be inspected by the Department of Agriculture, as required by state law. Plants of a grade less than that specified in the article titled HORTICULTURE STANDARDS will not be accepted.

PART 2.00 NON-PLANT MATERIALS

2.01 SOIL BACKFILL
A. Soil for backfilling planting areas and plant pits shall be the existing surface soil, free from subsoil, objectionable weeds, litter, sods, stiff clay, stones, stumps, roots, trash, toxic substances, mortar, cement or any other material which may be harmful to plant growth or hinder planting operations. Poorly drained soil shall not be used.
B. Soil amendments shall be added to the soil in the amount and manner prescribed by soil analysis to obtain a pH of 5.5 to 6.5. Results from soil analysis and a list of proposed soil amendments shall be presented to the owner and verified by the landscape architect prior to being incorporated into the soil.
C. If additional soil is required, it shall be furnished by the contractor and shall be a natural, friable soil representative of productive, well-drained soils in the vicinity. It shall be obtained from well drained areas which have never been stripped before + and shall be free of admixture of subsoil and foreign matter, stones, toxic substances and any material or substance that may be harmful to plant growth
D. The contractor shall provide the following information on imported topsoil:
1. Specific location from which topsoil will be (or was) stripped.
2. Present owner of that property.
3. Approximate amount of topsoil available.
4. Test results showing topsoil composition and analysis.
E. Soil test shall be performed by a qualified soils laboratory, in accordance with "Methods of Soils Analysis - Agronomy '9' as published by the American Society of Agronomy and shall be performed at the Contractor's expenses.
F. Planting soil backfill for raised architectural planters, if applicable, shall consist of 40% potting soil, 40% coarse washed builders sand and 20% horticultural perlite.
G. Areas designated to be planted with flowering annuals, if applicable, shall be excavated to a depth of 8? and backfilled with a mixture consisting of 40% peat, 40% D.O.T. (coarse) sand, 10% pine bark (decomposed) and 10% cypress chips.
H. Planting soil backfill for tree wells, if applicable, shall be 2/3 approved topsoil and 1/3 coarse washed builder's sand. ball.

2.02 FERTILIZER
A. Commercial fertilizer shall be 14-14-14 formulation of Osmocote brand, 3-4 month release of which 60% of the nitrogen is in urea-formaldehyde form and shall conform to the applicable state fertilizer laws. Fertilizer shall be uniform in composition, dry and free flowing.

2.03 DOLOMITIC LIMESTONE
A. Dolomitic limestone shall be a natural limestone, designated for agricultural use, shall contain not less than 85 % of total carbonates, and shall be ground so that 50% will pass a 100 mesh sieve and 50% will pass a 20 mesh sieve.

2.04 PRE-EMERGENCE WEED CONTROL
A. Weed control shall be Ronstar 2G as manufactured by Rhodia, Inc., Monmouth Junction, New Jersey 08852 or Princap (Simazone) as manufactured by Gelgy Agricultural Chemicals, Ardsley, New York 10502, or an approved equal.

2.05 WATER
A. Water will be available for use on site during the landscape installation at no cost to the contractor. Care shall be exercised to assure that water is kept free of harmful chemicals, acids, alkalis, or any substance, which might be harmful to plant growth.

2.06 ANTIDESICCANT
A. Antidesiccant shall be an emulsion type; film-forming agent designed to permit transpiration, but retard excessive loss of moisture from plants, such as Dowax by Dow Chemical Co., or Wilt-Pruf by Nursery Specialty Products, Inc., or an acceptable equal. The antidesiccant shall be delivered in the manufacturer's fully identified containers and shall be mixed in accordance with manufacturer's instructions.

2.07 BORICIDE
A. Boricide shall be Lindane as manufactured by Platt, or an approved equal.

2.08 MULCH
A. All mulch around building pad shall be stone, 3" deep. See plan for size, color and limits of stone mulch. Install a weed barrier under stone, and submit a stone sample to owner.

2.09 GUYING AND STAKING MATERIAL
A. Stakes for supporting trees shall be as detailed on the drawings. Wire for fastening trees to duckbill and turnbuckle shall be galvanized aircraft grade guying cable as specified in the detail. Wires in contact with trees shall be encased in two-ply reinforced garden hose. Material for wrapping tree trunks shall be burlap, heavy crepe paper, or other acceptable material in strips 6 to 10 inches wide.

2.10 DRAINAGE GRAVEL
A. Where indicated on the drawings, or where soil conditions deem it necessary, the contractor shall install gravel subdrains beneath trees and/or planting areas to aid in soil drainage and percolation. The subdrain shall be constructed as detailed on the drawings, or as directed by the landscape architect. Drainage gravel shall consist of washed, clean gravel 3/4 inch to 2 inches in size.

2.11 SOIL SEPARATION MATS
A. Soil separation mats, if indicated on the drawings, shall be Bidim (gray felt) as manufactured by Monsanto Co., 800 North Lindbergh Road, St. Louis, MO 63166 or approved equal. Mats shall be installed as indicated on the drawings, and edges overlapped a minimum of 4 inches. Care shall be taken to prevent tearing or excessive crushing during the installation process.

PART 3.00 PLANT MATERIAL

3.01 QUALITY OF PLANT MATERIAL
A. During inspection, as set forth hereinafter, all plant material will be judged, and rejections shall be based upon these standards. All plants shall comply with federal and state law requiring inspection for plant diseases and infestations. Inspection certificates required by law shall be made available to the owner or owner's representative at his/her request.
B. In determining the quality of plant material, the following elements will be valued:
1. Root condition.
2. Plant size (above ground).
3. Insect and disease free condition.
4. General appearance (color, shape, pruning).
A deficiency in one or more of these areas will be sufficient reason to reject selectively or by lot.
C. The landscape architect shall have the right, at any stage of the operations, to reject any and all work and materials which, in his opinion, do not meet with the requirements of these specifications. Such rejected material shall be removed from the site and acceptable material substituted in its place.

3.02 SIZE AND MEASUREMENTS
A. Plants shall be measured when branches are in their normal position. Heights and spread dimensions specified refer to the main body of the plant and not to extreme branch tip to tip. The measurements specified are the minimum size acceptable and where pruning is required, these are measurements after pruning. When sizes are indicated as a range, the plant shall have the proper proportion as outlined in Department of Agriculture, Grades and Standards for Nursery Plants Part 1 and 11. Caliper of trees shall be taken 36 inches above the ground level and shall be the determining measurement for trees.
B. Plants, which have been headed back to conform to the size specified, will not be acceptable. Plants larger than specified may be used if approved by the owner; however, the use of such plants shall not increase the contract price.

3.03 LABEL
A. Plant materials shall have durable, legible labels stating, in weather resistant ink, the correct botanical and common names and size as indicated in the Plant List. Each plant, or sufficient representative samples of each delivered shipment, shall have labels securely attached in a fashion that will not interfere with normal plant growth. Plant materials which have (or will have) a seasonal bloom shall be tagged with labels indicating the specific variety of that species' botanical and common name.

3.04 BALLED , BURLAPPED, WIRE BALLED, BURLAPPED PLANTS
A. All ball sizes shall be of a diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant after planting. All balls shall be firm, shall not be broken or cracked and shall be wrapped and securely tied with heavy twine or wire. All trees shall be pruned a minimum of 6 weeks before delivery. When the tree is root pruned, the tree crown shall be selectively thinned to reduce the volume of the crown. This shall consist of thinning out plant growth. Topping shall be taken to assure that the natural form will not be distorted and will remain typical of the species growth characteristics.
B. Plants specified in A or WB B or WB B in the Plant List shall be adequately balled with firm, natural balls of soil in sizes at least equal to those set forth in ANSI Z60.1-1986. Balls shall be firmly wrapped with jute burlap or equivalent cloth capable of rotting in the round. No balled plant shall be planted if the ball is cracked, mushroomed or broken either before or during the process of planting. Trees grown in grow bags shall not be acceptable. Synthetic strings, straps, and burlap material shall be properly removed from the root ball. Synthetic burlap is to be totally removed from the root ball.

3.05 COLLECTED PLANTS
A. All plant material (except Wax Myrtles and Sabal Palms) shall be nursery grown. Collected plants shall have been grown under climatic conditions similar to those in the locality of the project. All collected plants shall meet the requirements as specified and shall meet all specified grades and standards, unless otherwise qualified in the Plant List or these specifications. Root balls shall be increased in size one third greater than nursery grown plants.

3.06 CONTAINERIZED PLANTS
A. All container grown plants shall be well rooted and established in the container in which they are delivered to the site. The plants shall have been in that container sufficiently long for the fibrous roots to hold the soil together when the plant is removed from the container. Plants designated to be container grown may be furnished with ball and burlap provided they conform to the size and quality required and that the requirements for balled and burlapped plants are met. Container grown plants found to be root-bound during planting will not be acceptable. Containerized trees have a tendency to dry out quickly. The contractor shall be responsible for hand watering the trees at time of delivery through the time of final acceptance at a rate consistent with the nursery watering schedule to assure that the tree does not go into shock.

3.07 SPECIMEN PLANTS
A. After receiving the Notice to Proceed, the contractor shall locate all plants specified as specimen. The contractor shall notify the owner so they may agree on a time to mutually inspect the selected plants. The owner will inspect and tag those plants, which are acceptable for use. Expenses incurred by the owner for any subsequent inspection of specimen plants, at any time, in addition to the mutually agreed time shall be the responsibility of the contractor.

3.08 PALMS (if required)
A. Palms, except cabbage palms and unless otherwise indicated, shall be burlapped. Buds of palms shall be tied and supported in an upright position in accordance with the guidelines of Department of Agriculture, Grades and Standards for Nursery Plants, Part 11, Palms and Trees.
B. Special care shall be applied to the handling and planting of palms. Unless otherwise indicated, palms shall have heavy straight trunks with full heads. Sabal palm root balls shall be dug with a minimum of 3' diameter ball 3' deep. The head shall be tied and supported during transport with a 2x4 tied parallel to the trunk extending up to the foliage. Avoid excessive pressure on the petioles when tying the head. Canary Island Date palm heads shall be tied using a 4x4 wood pole.

3.09 SUBSTITUTIONS
A. The use of materials differing in kind, quality or size from those specified will be allowed only after the owner is convinced that all means of obtaining the specified materials have been exhausted.
B. Where it is indicated that the contractor may furnish or use a substitute that is equal to the material or equipment specified and if the contractor is to furnish or use a proposed substitute, he shall, after the award of the contract, make written application to the owner for acceptance of such a substitute. The substituted product or method shall be equal or superior in all respects to the specified product or method, shall perform adequately the duties imposed by the general design, shall be compatible with all other elements of the job, and shall be sufficient to complete the job. The substitution shall not add cost to the contract. Should it be necessary to accept a substitute of a quality less than specified, the unit price shall be used to adjust the contract price downward accordingly. No substitution shall be ordered or installed without the written permission of the owner and governing municipality.

PART 4.00 DELIVERY, STORAGE AND HANDLING

4.01 PLANT MATERIAL
A. The contractor shall exercise care in handling, loading and unloading, storage and transporting all plant material and allied materials to prevent damage. The contractor shall assume full responsibility for protection and safekeeping of products stored on the job.
B. The contractor shall dig and prepare B.B and WB B plant material for shipment in a manner that will not damage roots, branches, shape and future development after planting.
C. Trees indicated on the plans as WB B and those where size, soil conditions and distance of transport to the site would warrant, shall be wireballed. Bottom wired baskets manufactured specifically for use in tree handling may be used.
D. The contractor shall handle all plants so that roots and branches are protected at all times from drying out, heating and from other injury. All plants shall be handled by the ball or container.
E. Before moving plants from the nursery or storage area to the site; they shall be thoroughly sprayed with a solution of antidesiccant. Antidesiccant shall be applied to all collected pines, oaks and myrtles. Two weeks after planting or as specified by the product manufacturer; the material shall be sprayed again with the antidesiccant. The antidesiccant shall be applied using power spray to provide an adequate film over trunks, branches, stems, twigs and foliage.
F. When transporting plants to and at the site, the contractor shall make provisions to protect plants from wind damage by avoiding high-speed highways, transporting in enclosed or partially enclosed vehicles, or covering the plants with burlap or other suitable material. Plants severely damaged by wind will be rejected.
G. Any plant with signs of insects, their eggs or larvae or disease will be rejected and shall be removed from the project site.
H. Only the nursery stock intended for planting on a particular day shall be delivered and stored on the site during the day unless otherwise acceptable to the owner. All plants shall be stored in one location as designated by the owner, protected from wind and kept moist. The roots of all plants that cannot be planted immediately in soil shall be covered with mulch and other suitable material. No plants shall be taken from the temporary storage area for planting on the project until after the tree pits or holes for the plants in the section to be planted have been properly excavated and prepared ready to receive the trees and shrubs.
I. Trees moved by winch or crane shall be thoroughly protected from chain marks, girdling or other bark slippage by means of burlap, wood battens or other acceptable method.

4.02 NONPLANT MATERIAL

A. Fertilizer shall be delivered to the site in original, unopened containers bearing manufacturer's guaranteed chemical analysis, name, trade name, trademark and conformance to state law. In lieu of containers and provided that it is to be applied at the time of delivery, fertilizer may be furnished in bulk and a certificate indicating the above information shall accompany each delivery.
B. Pesticide and herbicide materials shall be delivered to the site in the original, unopened containers. Containers that do not have a legible label that identifies the Environmental Protection Agency registration number and the manufacturer's registered uses will be rejected.
C. Storage of materials shall be in the area designated for use by the owner. All materials shall be kept in dry storage and away from contaminants.

PART 5.00 INSTALLATION

5.01 PREPARATION BEFORE PLANTING
A. The contractor shall verify that all final grades have been established prior to beginning planting operations. All unsatisfactory grading shall be reported to the owner, and the contractor shall not proceed with this work until the unsatisfactory conditions have been corrected. When conditions detrimental to plant growth are encountered, such as rubble, fill or adverse drainage conditions, the contractor shall notify the owner for directions.
B. Should undesirable existing vegetation be present on the site at the time of installation, the contractor shall prepare the site for planting by use of chemicals, when used as recommended by the manufacturer, and/or mechanical means acceptable to the owner. Care shall be exercised to avoid any misuse of chemicals, which would create detrimental residual conditions. Care must also be used not to alter final grades, which have been established or cause damage to previously established turf areas.

5.02 SITE PREPARATION
A. If so called for by the owner, all plant locations and the areas of all planting beds shall be staked out on the ground, for acceptance by the owner, before planting operations begin. The contractor shall stake the location of the center of each tree and paint the outline of each shrub and groundcover bed. The stakes shall be oriented in a vertical manner so that they can be viewed and read from one direction. The contractor shall give the owner notice 24 hours prior to the completion staking described herein.
B. The contractor shall verify the location of underground utilities, and irrigation heads and valves, and provide markers or other suitable protection, where necessary, to prevent damage.

5.03 EVCAVATION OF PLANTING AREAS
A. No tree or shrub pit shall be dug or prepared until their location is acceptable to the owner. Reasonable care shall be exercised to have pits dug and soil prepared prior to moving plants to respective locations for planting to ensure that they will not be unnecessarily exposed to drying elements or to physical damage.
B. Circular pits with vertical sides shall be excavated for all plants. The depth of all plant pits shall be enough to accommodate the ball or roots and the prepared soil in the bottom of the pit. Diameter of pits for trees shall be at least 1 foot greater than the diameter of the ball.
C. Plant beds and pits shall be tested for proper drainage by filling with water twice succession. Conditions permitting the retention of more than 6 inches of water in 1 hour shall be brought to the attention of the owner. A written proposal and cost estimate for correction of such conditions shall be submitted to the owner for acceptance, before proceeding with the work.
D. All tree pits curbed planting islands, tree wells, or in areas, in which the soil has been compacted to an undesirable density, shall be excavated to a depth at least two feet greater than the measured depth and diameter of the ball. The minimum depth and diameter of excavation shall be four feet. Soil backfill in areas of densely compacted soil must meet specification 201-C unsuitable soil to an approved location.
E. In shrub and groundcover beds where soils have been compacted to a density, which is detrimental to plant growth, the contractor shall loosen soils to a depth of 18" minimum to allow root penetration beyond the planting pit.
F. If acceptable for use, existing topsoil in shrub and groundcover beds shall be treated with the specified soil amendments, at rates determined by soil tests. Amendments shall be incorporated into the soil to a depth of 12 inches. Where soil is not acceptable as determined by soil tests, the soil in the entire area shall be removed to a depth of 8 inches and replaced with the specified planting soil.

5.04 PLANTING
A. All plants, except as otherwise specified, shall be centered in their pits, faced for best effect and set plumb for backfilling.
B. Burlap on B&B and WB&B plants shall be removed from top one third of the ball. Burlap shall not be removed from under balls. If the ball is cracked or broken before or during planting process, the plant shall not be removed from the site. All synthetic strings, straps, and wire cages shall be removed from the top of third of the root ball. Synthetic burlap shall be removed completely.
C. Plants shall be removed from cans by cutting two sides of a container with an acceptable can cutter. Sides shall not be cut with a spade. Sides of knockout cans shall not be cut. Plastic containers with slanted sides shall not require cutting. Plants shall be removed from the container carefully, without injury or damage to the plant and root system.
D. Bottom of plant boxes shall be removed before planting. Sides of the box shall be removed, without damage to the root ball, after positioning the plant and partially backfilling around it. The contractor shall hand water-containerized trees from the time of delivery until the time of the final acceptance at a rate consistent with the nursery conditions from which the trees were obtained. Trees, which go into shock due to insufficient water, may be rejected.
E. Plants shall be set in the center of the pits and shall be plumb and straight and at such a level that after settlement the root crown will be level with the surrounding grade.
F. Plant holes shall be backfilled with the specified planting mixture placed in layers around the roots or ball. Each layer shall be carefully tamped in place in manner to avoid injury to the roots or ball or disturbing the position of the plant. When approximately two thirds of the plant hole has been backfilled, the hole shall be filled with water and the soil allowed to settle around the roots. Balled and burlapped plants shall have the burlap cut away or folded back from the top of the ball before applying water. After the water has been absorbed, the plant hole shall be filled and tamped lightly to grade. Any subsequent settlement shall be brought to grade.
G. Immediately after each tree pit is backfilled, a shallow basin slightly larger than the pit shall be formed with a ridge of topsoil to facilitate watering. This soil saucer shall be formed in a circle and tamped around each tree so that the saucer will retain water. Where curbing occurs around plant pits, the saucer shall be omitted.
H. The contractor shall include adding a water retentive additive Terra-Sorb AG for all shrubs, groundcovers, annuals and trees at the manufacturers suggested rates.
DFPA Plyform, Exterior B-B, edge sealed.
1. Plastic Fiber:
Special forms of molded fiber, if required.
2. Cardboard:
Beam void forms "VOIDCO" or equal, as required under pier supported grade beams.
3. Metal
Commercial standard, or as noted on drawings.

5.05 FERTILIZING
A. Each tree and shrub shall be fertilized by placing the manufacturer's recommended amount around the base of the ball before backfilling.

5.06 STAKING, GUYING AND WRAPPING
A. Staking or guying and wrapping of trees shall be done immediately after they are planted. Each plant shall stand plumb after staking or guying has been completed. It shall be the Contractor's responsibility to ensure that all trees are plumb and secure after planting. Staking of trees of a ½ foot height or less shall be at the discretion of the Owner. All other trees shall be staked.
B. Immediately after planting, trees shall be staked and guyed for support. "Duck-bill" earth anchors as indicated shall be placed at sides of each tree, and shall be driven into undisturbed ground to a depth deep enough to sufficiently secure the tree. Care shall be taken when driving anchors to avoid damaging the tree roots. Except as otherwise indicated or directed, the tree shall be fastened to each anchor as indicated on the plans. The wires shall be encased in hose at the tree to prevent direct contact with the bark and shall be placed around the trunk in a single loop. Wires shall be tightened and kept taut by twisting the turnbuckle. A brightly colored flagging tape approximately 12" in length shall be securely tied to each guy wire immediately above the turnbuckles.
C. If planted while void of foliage, the trucks of all deciduous trees shall be wrapped spirally from bottom to top, and shall be securely tied with cord at top and bottom and at 2 foot intervals along the trunk. The wrapping shall overlap and entirely cover the trunk from the ground to the height of the second branches and shall be neat and snug. Overlap of wrapping material shall be approximately 2 inches. Trees shall be inspected for injury to trunks, evidence of insect infestation and improper pruning before wrapping.
D. Tree stakes are to be installed for a period of twelve months and are to be removed prior to the End of Guarantee.

5.07 MULCHING
A. Immediately after planting operations are completed, all tree and shrub saucers, and shrub and groundcover beds outside of the building pad shall be covered with a 2 to 2 ½ inch layer of shredded cypress bark. Limits of the mulch shall be as indicated on the drawings.

5.08 PRUNING
A. Each tree and shrub shall be pruned in accordance with standard horticultural practice to preserve the natural character of the plant and in the manner fitting its use in the landscape design. Pruning shall be done with clean, sharp tools and as indicated on the drawings.
B. Approximately one third of the growth of large deciduous trees (those with 2 inch caliper or larger) shall be pruned by removal of superfluous branches. Main leaders of trees shall not be cut back. Branches shall be thinned out and not merely cut back. Long side branches may be shortened. Shrubbery with extremely heavy tops shall have one fourth to one third of the weaker growth removed by thinning.

5.09 CLEANUP
A. During the course of planting, excess and waste materials shall be continuously and promptly removed daily, lawns kept clear, and all reasonable precautions taken to avoid damage to existing structures, plants and grass. After completion of the work, the entire site shall be cleared of excess soils, waste material, debris and all objects that may hinder maintenance and affect the visual appearance of the site.
The Contractor shall clean all roads and walks of dirt film and soil clods. The Contractor shall also pressure clean and broom sweep all asphalt pavement prior to the final lift of asphalt to be laid.

5.10 DISTURBED AREAS
A. All areas outside of the limits of work that are disturbed by the Contractor's construction activities shall be repaired and replanted to its original condition.

PART 6.00 GUARANTEES

6.01 GUARANTEED PROVING PERIOD
A. There shall be a guarantee period of 18 months for trees and specimen material and 18 months for shrubs. This guarantee period shall start following final written approval by the Landscape Architect or Township engineer. Contractor shall replace any and all plant material, which die during this guarantee proving period. Replacement of plants necessary during the guarantee period shall be the responsibility of the Contractor, except for possible replacements of plants resulting from removal, vandalism, acts of neglect on the part of others, or acts of God. All replacement material shall have the same guarantee time (18 months from installation of replacement for trees and specimen material and 18 months for shrubs).
B. During maintenance shall include all necessary watering, cultivation, weeding, pruning and spraying, wrapping and mulching, straightening of plants which lean or sag and which develop more than a normal amount of settlement such adjustments to include excavating around and leveling or raising the ball when so directed and all other incidental work necessary for proper maintenance as directed by the Owner until substantial completion and written release.
C. Transplanted material (if applicable) shall not be guaranteed, however, good horticultural practices should be used before, during and after the material is transplanted. Good horticultural practices should include but not be limited to, all necessary watering, pruning and spraying, wrapping and mulching, fertilizing, moving, maintaining the same orientation and grade level from the original location, and all other incidental work necessary for proper transplanting.

6.02 FINAL INSPECTION AND ACCEPTANCE
A. The Contractor shall notify the Owner in writing when the work has been completed in accordance with this Contract and request an inspection. The Owner will make the inspection of the work and report findings as to acceptability and completeness. Any work remaining to be done shall be subject to reinspection before final acceptance. The Contractor will be notified in writing by the Owner of the final acceptance of the work.

6.03 CONTRACTOR'S RESPONSIBILITY AFTER ACCEPTANCE
A. The Owner may elect to assume maintenance of all work, at the time of acceptance, or may elect to contract for maintenance by others for a specified period. Should maintenance after final acceptance be the responsibility of those other than the Contractor, the Contractor shall monitor all work for which he is responsible by guarantee, to assure that maintenance being performed will not jeopardize the condition and quality of the work and materials guaranteed by the Contractor. Any inadequate or damaging maintenance practices shall be reported immediately in writing to the Owner so that appropriate measures may be taken to correct the condition. Failure to so notify the Owner will invalidate any later claim of negligence or malpractice in maintenance.

6.04 ACCEPTANCE AND REPLACEMENT OF PLANT MATERIAL
A. At the end of the proving period, an inspection of the plantings will be made by the Owner. Only those plants that are alive and normally healthy will be accepted. Unaccepted material shall be removed and replaced by the Contractor at his own expense, during the next planting season. Material and method of replacement planting shall be the same as specified for the original planting unless otherwise directed. The Contractor shall continue to make replacements until a plant shows vigorous and healthy growth for a period of 1 year from the date of acceptance by the Owner. All such replacements will be inspected for acceptance at the end of the proving period by the Owner.

6.05 REQUIRED MAINTENANCE
A. Landscape contractor shall be responsible for the maintenance and upkeep for 90 days past the final inspection. At that point contact the general manager of the store and determine if the landscape contractor will remain on. If yes, contractor will be responsible for the maintenance and warrantee of all landscaping for one full year. If no, the landscape contractor is to walk the site with the general manager, manager, the facilities manager and the new landscaper and they shall agree that all planting is in good shape prior to the new landscaper taking over.

END OF SECTION

CORE STATES GROUP
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ENGINEER SEAL

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION

1 08-18-2022
AGENCY REVISIONS

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD
WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing

LANDSCAPE SPECIFICATIONS

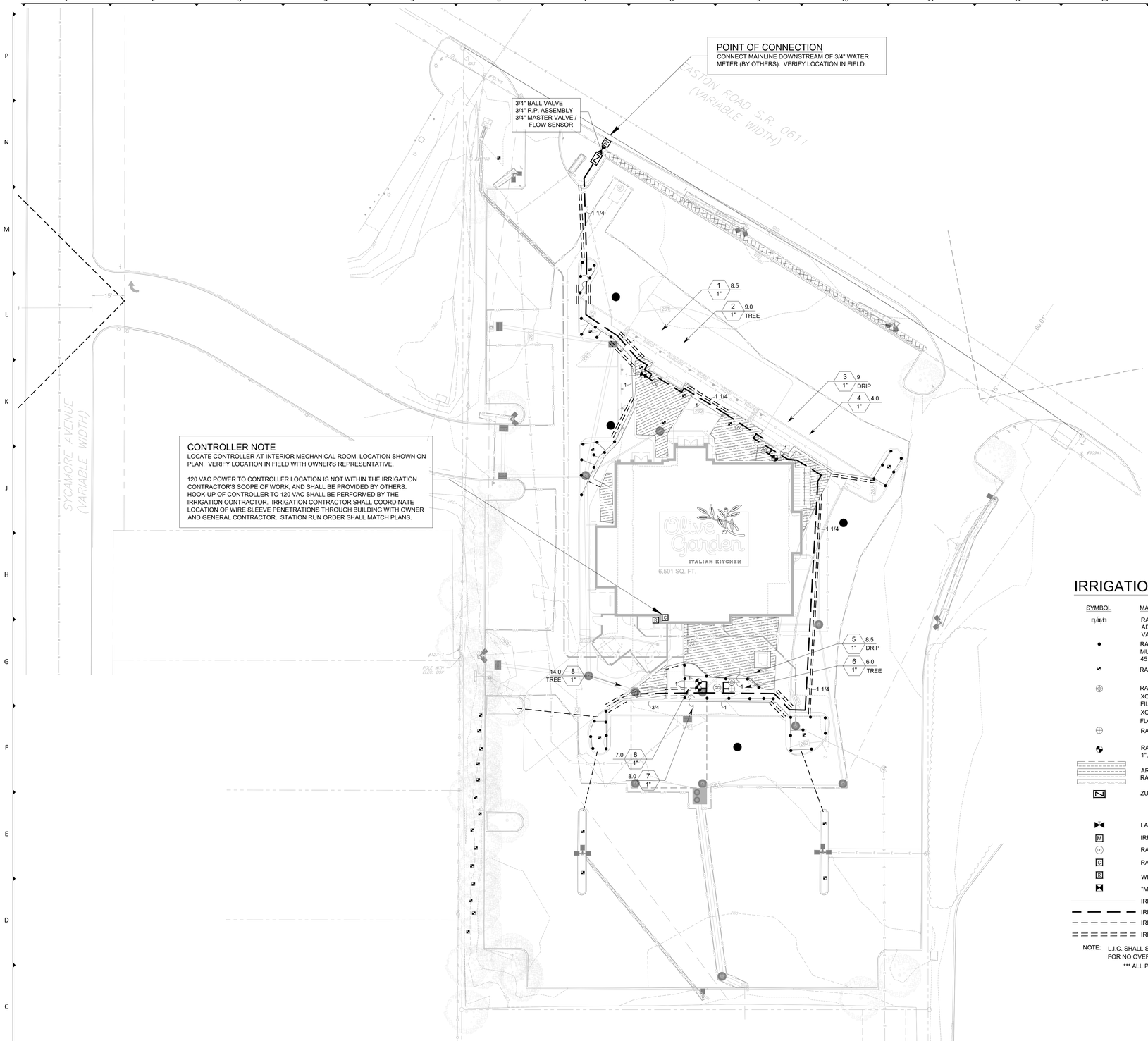
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PENNSYLVANIA KING SHEPLER REGISTERED LANDSCAPE ARCHITECT
Eric M. Shepler, R.L.A.
PA LICENSE #LA003179 08/22/22

EVERGREEN DESIGN GROUP
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811 Know what's below. Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN PLANS AND/OR FIELD SURVEY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND MEASUREMENTS THEIN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST FOUR RETURN BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.



IRRIGATION DISCLAIMER

THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE PROPERTY LINES OR LIMITS INDICATED ON PLAN. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE-GRADE IRRIGATION EQUIPMENT WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION, OR IRRIGATION CONTRACTOR MAY BE REQURED TO MOVE SUCH ITEMS AT HIS OWN COST.

IRRIGATION CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL FINAL QUANTITIES PER DRAWINGS AND SPECIFICATIONS. ANY QUANTITIES PROVIDED ARE PROVIDED AS A CONVENIENCE TO THE CONTRACTOR ONLY AND SHALL NOT BE CONSIDERED ABSOLUTE.

AUTOMATIC DRAIN VALVES AND AIR RELIEF VALVES

INSTALL AUTOMATIC DRAIN VALVES AT THE LOW POINTS OF EACH LATERAL LINE (MIN. 2 PER VALVE) AS PER DETAIL L, SHEET LI4. INSTALL AIR RELIEF VALVES ON DRIP SYSTEMS AT THE LCOATIONS SHOWN ON THE PLANS, AS AS PER DETAILS.

SLEEVING / WIRING NOTES:

IN ADDITION TO PROVIDING SLEEVES FOR ALL PIPING UNDER ROADWAYS AND WALKWAYS, THE IRRIGATION CONTRACTOR SHALL PROVIDE AND INSTALL SCH. 40 PVC SLEEVES FOR ALL CONTROLLER WIRES OCCURRING UNDER ALL ROADWAYS AND WALKWAYS. SLEEVES FOR CONTROLLER WIRES SHALL BE 2" DIA. AND CONTAIN NO MORE THAN 25 WIRES. **FOR PLAN CLARITY, ONLY SOME REPRESENTATIVE SLEEVES ARE SHOWN; SOME SLEEVES MAY NOT BE SHOWN.**

COORDINATION WITH EXISTING TREES

NO MACHINE TRENCHING SHALL BE PERMITTED WITHIN THE ROOT ZONE OF EXISTING TREES. HAND-DIG ONLY, WITHIN THE ROOT ZONES OF EXISTING TREES. NO ROOTS OVER 1" DIAMETER SHALL BE CUT. STAKE ALL PROPOSED TRENCH ROUTES NEAR EXISTING TREES FOR APPROVAL BY THE LANDSCAPE ARCHITECT BEFORE DIGGING BEGINS.

COORDINATION WITH EXISTING IRRIGATION

THE CONTRACTOR SHALL VISIT THE SITE BEFORE CONSTRUCTION BEGINS TO BECOME FAMILIAR WITH THE EXISTING SITE/SYSTEM LAYOUT. CONTRACTOR SHALL CONFIRM IF AN EXISTING SYSTEM IS PRESENT.CONTRACTOR SHALL REROUTE, REPAIR, OR REINSTALL EXISTING EQUIPMENT AS REQUIRED TO MAINTAIN CONTINUED AUTOMATIC OPERATION OF ALL AREAS OUTSIDE THE LIMITS OF WORK. PROTECT EXISTING EQUIPMENT WITHIN THE LIMITS OF WORK, WHICH IS INTENDED TO REMAIN. L.I.C. SHALL RE-WORK EXISTING IRRIGATION TO INCLUDE AND ACCOUNT FOR NEW PLANTINGS. RE-WORKED IRRIGATION SHALL BE INSTALLED ACCORDING TO STATE SPECIFICATIONS.

VALVE KEY

Valve Callout
Valve Number
Valve Flow
#" Valve Size

IRRIGATION_LEGEND

SYMBOL	MANUFACTURER/MODEL
	RAIN BIRD R-VAN-STRIP 1806-SAM-P45 ,TURF ROTARY, 5'X15' (LCS AND RCS), 5'X30' (SST) HAND ADJUSTABLE MULTI-STREAM ROTARY W/ 1800 TURF SPRAY BODY ON 6.0" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET.
	RAIN BIRD R-VAN14 1806-SAM-P45, TURF ROTARY, 8'-14' 45°-270° AND 360° HAND ADJUSTABLE MULTI-STREAM ROTARY W/1800 TURF SPRAY BODY ON 6.0" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET.
	RAINBIRD 1806-SAM-PRS SERIES POP UP SPRAY HEADS WITH ADAPTER AND RAINBIRD #1402 SERIES BUBBLER NOZZLES. (TWO PER TREE) SEE INSTALLATION NOTE #N-5 REGARDING TREE BUBBLER LATERAL PIPE
	RAINBIRD XCZ-100-PRB-COM / 150-PRB-COM SERIES AUTOMATIC DRIP VALVE ASSEMBLY WITH 40 PSI PRESSURE REGULATOR XCZ-100-PRB-COM - 1" BALL VALVE WITH 1" PESB VALVE AND 1" PRESSURE REGULATING 40PSI QUICK-CHECK BASKET FILTER. 0.3GPM TO 20GPM. XCZ-150-PRB-LCDR - 1-1/2" PESB-R SCRUBBER GLOBE VALVE WITH SINGLE 1-1/2" PRESSURE REGULATING (40PSI) QUICK-CHECK BASKET FILTERS. FLOW RANGE: 15-62GPM.
	RAINBIRD PEB SERIES ELECTRIC REMOTE CONTROL, "TREE BUBBLER ZONE" VALVE SEE INSTALLATION NOTE #N-5 REGARDING TREE BUBBLER LATERAL PIPE
	RAIN BIRD PEB SERIES 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.
	AREA TO RECEIVE DRIPLINE RAINBIRD XFS-CV-06-12 SERIES DRIP TUBE IN SHRUB BED INSTALLED AT 2" DEPTH
	ZURN / WILKINS 375XLB SERIES REDUCED PRESSURE TYPE BACKFLOW PREVENTOR INSTALLED PER CITY CODE WITH SAME SIZE BRONZE BALL VALVE INSTALLED ON THE UP-STREAM SIDE. MOUNTED IN STRONGBOX SMOOTH TOUCH ENCLOSURE.
	LASCO "V101N" SERIES SCH. 80 PVC TRUE UNION BALL VALVE, MAINLINE SIZE
M	IRRIGATION WATER METER AND TAP, SIZE AS NOTED ON THE PLAN
QC	RAINBIRD 33-DNP QUICK COUPLING VALVE WITH LOCKING PURPLE COVER AND 3/4" PVC BALL VALVE
C	RAINBIRD ESP12LXMEF SERIES AUTOMATIC WALL MOUNT CONTROLLER
R	WR2-RFC RAIN / FREEZE SENSOR LOCATE SENSOR AS FIELD DIRECTED BY THE LANDSCAPE ARCHITECT
	"MASTER" ELECTRIC VALVE (SAME SIZE AS METER) WITH RAINBIRD FLOW SENSOR MODEL #FS100B SERIES
	IRRIGATION LATERAL LINE: CLASS 200
	IRRIGATION MAINLINE: SCHEDULE 40 PVC
	IRRIGATION SLEEVE, SCH. 40 PVC, MIN. TWICE SIZE OF PIPE TO BE INSERTED
	IRRIGATION SLEEVES, SCH. 40 PVC, MIN. TWICE SIZE OF PIPE TO BE INSERTED

NOTE: L.I.C. SHALL SELECT R-VAN SPRAY NOZZLES FOR "HEAD-TO-HEAD" COVERAGE, ADJUSTED FOR NO OVERSPRAY ONTO WALLS AND WALKS. NO OVERSPRAY INTO STREETS IS PERMITTED.
*** ALL PIPE TO BE SIZED SUCH THAT FLOWS WILL NOT EXCEED VELOCITY OF 5 FPS ***

IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 PVC CLASS 200 IRRIGATION PIPE. ONLY LATERAL TRANSITION PIPE SIZES 1" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 3/4" IN SIZE.

UPPER MORELAND TOWNSHIP CERTIFICATIONS

APPROVAL NOTATION BY THE TOWNSHIP SHALL BE AS FOLLOWS:
APPROVED BY THE BOARD OF COMMISSIONERS OF UPPER MORELAND TOWNSHIP THIS _____ DAY OF _____, 20___.

PRESIDENT
ATTEST:

TOWNSHIP SECRETARY

TOWNSHIP ENGINEER

Scale 1" = 20'

CORE STATES GROUP
201 S. Maple Avenue
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Olive Garden ITALIAN KITCHEN

ENGINEER SEAL

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION
1 08-18-2022 AGENCY REVISIONS

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD
WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

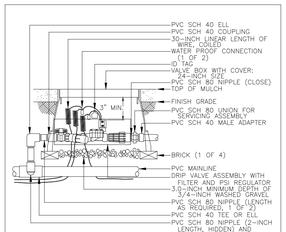
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IRRIGATION PLAN

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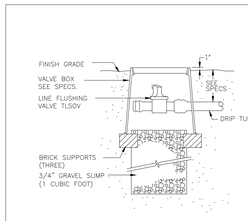
PENNSYLVANIA REGISTERED LANDSCAPE ARCHITECT
Eric M. Shapley, R.L.A.
PA LICENSE #LA003179 08/22/22

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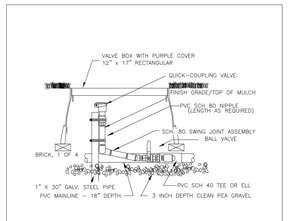
811 Know what's below. Call before you dig.
THE CONTRACTOR IS SPECIFICALLY CAUTIONED TO DETERMINE ACTUAL ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN ELEVATIONS AND MAY NOT BE ACCURATE. CONTRACTOR SHALL VERIFY ALL MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE UTILITY COMPANIES AT LEAST 72 HOURS (3 WORKING DAYS) BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.



CONTROL ZONE KIT 176

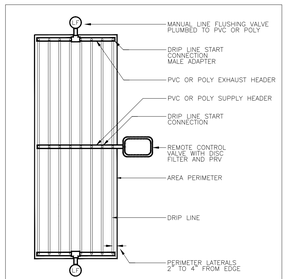


MANUAL LINE FLUSH VALVE 176



176

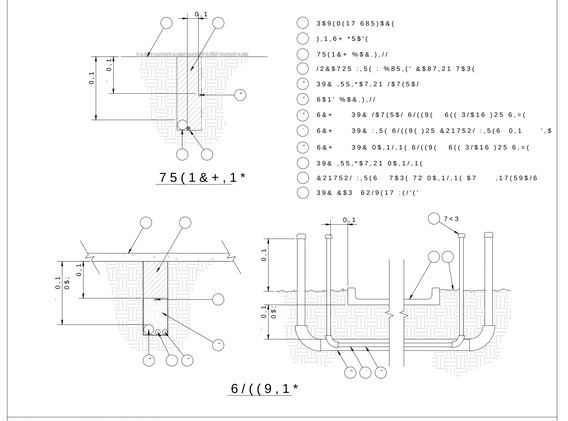
QUICK COUPLER VALVE WITH PVC BALL VALVE



SUPPLY AND EXHAUST HEADERS SHALL BE CLASS 200 PVC PIPE, OF THE SAME DIAMETER AS THE ZONE VALVE SIZE.

USE DRIP TUBE FOR SUPPLY AND EXHAUST HEADERS ON GRIDS WITH FLOW SMALLER THAN 5 GPM ONLY.

DRIP CENTER FEED LAYOUT 176


0.1
0.1
0.1

IRRIGATION SPECIFICATIONS

GENERAL

A. QUALIFICATIONS OF IRRIGATION CONTRACTOR
   1. ALL WORK SHOWN ON THESE PLANS SHALL BE PERFORMED BY A SINGLE IRRIGATION CONTRACTING FIRM SPECIALIZING IN IRRIGATION SYSTEMS. SEE THE IRRIGATION PLAN FOR SPECIFIC EQUIPMENT AND SYSTEM LAYOUT
   2. THE IRRIGATION CONTRACTOR MUST HAVE ON ITS STAFF A LICENSED IRRIGATION INSTALLER, AS REGULATED BY THE APPROPRIATE LOCAL JURISDICTION. A LICENSED IRRIGATION INSTALLER SHALL BE PRESENT AT THE PROJECT SITE AT ALL TIMES AS WORK IS IN PROGRESS. THE OWNER MAY DEMAND THAT WORK STOP UNTIL THE CONTRACTOR PROVIDES FOR A LICENSED IRRIGATION INSTALLER TO BE PRESENT AT THE PROJECT SITE AND SUPERVISING ALL IRRIGATION WORK.
   3. A LIST OF SUCCESSFULLY COMPLETED PROJECTS OF THIS TYPE, SIZE AND NATURE MAY BE REQUESTED BY THE OWNER FOR FURTHER QUALIFICATION MEASURES.
B. SCOPE OF WORK
   1. WORK COVERED BY THESE SECTIONS INCLUDES THE FURNISHING AND PAYMENT OF ALL MATERIALS, LABOR, SERVICES, EQUIPMENT, LICENSES, TAXES, FEES, AND ANY OTHER ITEMS THAT ARE NECESSARY FOR THE EXECUTION, INSTALLATION AND COMPLETION OF ALL WORK, SPECIFIED HEREIN AND/OR SHOWN ON THE IRRIGATION PLANS, NOTES, AND DETAILS.
   2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER SUCH WORK, INCLUDING ALL INSPECTIONS AND PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES IN SUPPLY, TRANSPORTATION AND INSTALLATION OF MATERIALS. IN CASE OF CONFLICT BETWEEN THESE PLANS AND LOCAL AND/OR STATE CODES, CODES SHALL PREVAIL.
   3. THE INTENT OF THE IRRIGATION SYSTEM IS TO PROVIDE 100% COVERAGE OF ALL LANDSCAPE AREAS. THE IRRIGATION PLAN IS GENERALLY DIAGRAMMATIC; COORDINATE IRRIGATION INSTALLATION WITH UTILITY INSTALLATIONS. ACTUAL LOCATION OF CONTROLLER, BACKFLOW DEVICE, PIPING, VALVES, SPRAY HEADS, DRIP IRRIGATION, AND RELATED EQUIPMENT MAY NEED TO BE ADJUSTED BASED ON ACTUAL SITE CONDITIONS.
   4. FOR CLARITY PURPOSES, SOME IRRIGATION LINES AND EQUIPMENT ARE SHOWN IN HARDSCAPE AREAS WITHOUT ACCESS SLEEVES; THESE LINES SHALL BE INSTALLED IN A COMMON TRENCH OR AT THE BACK OF CURB IN LANDSCAPE AREAS. MINOR FIELD ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

PRODUCTS

A. ALL MATERIALS SHALL BE NEW AND WITHOUT FLAWS OR DEFECTS OF ANY TYPE AND SHALL BE THE BEST OF THEIR CLASS AND KIND. ALL MATERIALS SHALL HAVE A MINIMUM GUARANTEE OF ONE YEAR AGAINST MATERIAL DEFECTS OR DEFECTIVE WORKMANSHIP. ALL MATERIALS SHALL BE OF THE BRANDS AND TYPES NOTED ON THE DRAWINGS OR AS SPECIFIED HEREIN, OR APPROVED EQUAL. THE CONTRACTOR MUST FIRST OBTAIN APPROVAL FROM THE IRRIGATION DESIGNER FOR AN 'APPROVED EQUAL' BEFORE INSTALLING SUCH MATERIALS IN THE FIELD, OR THE CONTRACTOR MAY BE REQUIRED TO REPLACE SUCH MATERIALS AT HIS OWN COST.
B. BACKFLOW PREVENTION DEVICES SHALL BE OF THE SIZE AND TYPE INDICATED ON THE DRAWINGS. INSTALL BACKFLOW PREVENTION UNITS IN ACCORDANCE WITH IRRIGATION CONSTRUCTION DETAILS AND ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES.
C. PIPING
   1. PRESSURE SUPPLY LINES, DOWNSTREAM OF THE POINT-OF-CONNECTION:
      a. SCHEDULE 40 PVC FOR ALL PIPE 1-1/2" OR LESS
      b. CLASS 315 PVC FOR ALL PIPE 2" TO 2-1/2"
      c. CLASS 200 PVC, GASKETED, FOR ALL PIPE 3" AND LARGER
   2. SLEEVING AND NON-PRESSURE LATERAL LINES (DOWNSTREAM FROM VALVES): CLASS 200 PVC
   3. FITTINGS: SCH. 40 PVC, EXCEPT AS NOTED OTHERWISE.
D. VALVES AND DRIP VALVE ASSEMBLIES: TYPE AND SIZE AS NOTED ON PLANS. EACH VALVE SHALL BEAR A PRE-MANUFACTURED, NUMBERED WATERPROOF TAG BEARING A NUMBER CORRESPONDING TO ITS VALVE SEQUENCE OF OPERATION ON THE CONTROLLER. THE OPERATION SEQUENCE SHALL MATCH THAT AS SHOWN ON THE PLANS.
E. QUICK COUPLERS, BALL VALVES, AND GATE VALVES: TYPE AND SIZE PER PLANS.
F. VALVE BOXES: TYPE AND SIZE AS NOTED ON DETAILS. ALL VALVES BOXES SHALL BE LOCKING BOLT-DOWN TYPE, FURNISHED WITH LIDS AND BOLTS. BOXES SHALL BE OF A SIZE TO CONTAIN THE ENTIRE VALVE AND/OR VALVE ASSEMBLY. THE VALVE BOX LID SHALL HAVE THE VALVE STATION NUMBER HEAT-BRANDED INTO THE LID WITH 2" HIGH LETTERS.
G. FIXED SPRAY HEADS AND ROTORS: PLASTIC BODY POP-UP, WITH A REMOVABLE PLASTIC SPRAY NOZZLE. EXACT TYPE, MODEL, AND NOZZLE SHALL BE AS INDICATED ON PLANS.
H. INTEGRAL EMITTER DRIP TUBING: TUBING MODEL AND FLOW RATE AS NOTED ON PLANS, WITH INTEGRAL EMITTERS WELDED TO THE INSIDE WALL OF THE TUBING AS AN INTEGRAL PART OF THE TUBING ASSEMBLY.
I. AUTOMATIC CONTROLLER: TYPE AND MODEL PER PLANS. PROVIDE VANDAL-PROOF ENCLOSURE FOR ALL EXTERIOR INSTALLATIONS. PROVIDE LINE-VOLTAGE DISCONNECT SWITCH WITH GROUND FAULT PROTECTION.
J. 24 VOLT VALVE WIRE SHALL BE A MINIMUM OF #14 GAUGE, U.F. APPROVED FOR DIRECT BURIAL, SINGLE CONDUCTOR IRRIGATION WIRE. EACH CONTROLLER SHALL HAVE A DIFFERENT COLOR STATION AND COMMON WIRE.
   1. STATION WIRE - ANY COLOR EXCEPT WHITE OR BLUE
   2. COMMON WIRE - WHITE
   3. EXTRA COMMON WIRES - BLUE
K. WIRE SPLICES SHALL BE ENCASED IN A WATERPROOF COMPOUND OR GEL. ALL FIELD SPLICES SHALL BE LOCATED IN A 6 INCH ROUND VALVE BOX.
L. RAIN SENSOR: TYPE AND MODEL PER PLANS.

METHODS

A. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE PROPERTY LINES OR LIMITS INDICATED ON PLAN. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE-GRADE IRRIGATION EQUIPMENT WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION, OR IRRIGATION CONTRACTOR MAY BE REQUIRED TO MOVE SUCH ITEMS AT HIS OWN COST. ENSURE FIELD COORDINATION IS MADE EARLY ON IN THE CONSTRUCTION PHASE SO PLACEMENT LOCATION IS CORRECT.
B. THE IRRIGATION CONTRACTOR SHALL MEET WITH THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK, AND SHALL OBTAIN ALL ENGINEERING, LANDSCAPE, AND OTHER APPLICABLE PLANS & DOCUMENTS. THE CONTRACTOR SHALL THOROUGHLY REVIEW THE PLANS AND REPORT ANY CONFLICTS OR DISCREPANCIES TO THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE IMMEDIATELY.
C. THE IRRIGATION CONTRACTOR SHALL NOT WILFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADES OR DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE IRRIGATION DESIGNER. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS AND NECESSARY COSTS.
D. THE IRRIGATION CONTRACTOR SHALL PAY ANY AND ALL FEES AND PERMITS ASSOCIATED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM.
E. AT LEAST SEVEN DAYS BEFORE BEGINNING WORK, CONFIRM THE STATIC WATER PRESSURE IS AT LEAST 65 PSI. IF STATIC WATER PRESSURE IS OUTSIDE OF THE STATED RANGE, DO NOT PROCEED WITHOUT FIRST NOTIFYING THE IRRIGATION DESIGNER AND OWNER IN WRITING, AND OBTAINING SUBSEQUENT DIRECTION FOR CORRECTIONAL MEASURES. SHOULD THE IRRIGATION CONTRACTOR CHOOSE TO BEGIN THE INSTALLATION WITHOUT SUCH NOTIFICATION, THE IRRIGATION CONTRACTOR WILL ASSUME THE RESPONSIBILITY FOR ALL COSTS INCURRED TO ENSURE THE SYSTEM IS WORKING PROPERLY. NO CHANGE ORDERS WILL BE AUTHORIZED IN SUCH CIRCUMSTANCES.
F. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITY LINES (WATER, SEWER, ELECTRICAL, TELEPHONE, GAS, CABLE, TELEVISION, ETC.) PRIOR TO THE START OF ANY WORK. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATIONS OF WALLS, STRUCTURES AND UTILITIES.
G. COORDINATE WITH THE OWNER THE PROPOSED LOCATIONS OF THE AUTOMATIC CONTROLLER AND ANY REQUIRED SLEEVES THROUGH THE BUILDING FOR CONTROL WIRES.
H. TRENCHING NEAR EXISTING TREES:
   1. CONTRACTOR SHALL NOT DISTURB ROOTS 1-1/2" AND LARGER IN DIAMETER WITHIN THE CRITICAL ROOT ZONE (CRZ) OF EXISTING TREES, AND SHALL EXERCISE ALL POSSIBLE CARE AND PRECAUTIONS TO AVOID INJURY TO TREE ROOTS, TRUNKS, AND BRANCHES. THE CRZ IS DEFINED AS A CIRCULAR AREA EXTENDING OUTWARD FROM THE TREE TRUNK, WITH A RADIUS EQUAL TO 1' FOR EVERY 1" OF TRUNK DIAMETER-AT-BREAST-HEIGHT (4.5' ABOVE THE AVERAGE GRADE AT THE TRUNK).
   2. ALL EXCAVATION WITHIN THE CRZ SHALL BE PERFORMED USING HAND TOOLS. NO MACHINE EXCAVATION OR TRENCHING OF ANY KIND SHALL BE ALLOWED WITHIN THE CRZ.
   3. ALTER ALIGNMENT OF PIPE TO AVOID TREE ROOTS 1-1/2" AND LARGER IN DIAMETER. WHERE TREE ROOTS 1-1/2" AND LARGER IN DIAMETER ARE ENCOUNTERED IN THE FIELD, TUNNEL UNDER SUCH ROOTS. WRAP EXPOSED ROOTS WITH SEVERAL LAYERS OF BURLAP AND KEEP MOIST. CLOSE ALL TRENCHES WITHIN THE CANOPY DRIP LINES WITHIN 24 HOURS.
   4. ALL SEVERED ROOTS SHALL BE HAND PRUNED WITH SHARP TOOLS AND ALLOWED TO AIR-DRY. DO NOT USE ANY SORT OF SEALERS OR WOUND PAINTS.
I. BACKFILL
   1. ALL BACKFILL MATERIAL SHALL BE SUBJECT TO APPROVAL BY THE OWNER. BACKFILL MATERIAL SHALL BE FREE FROM RUBBISH, ROCK LARGER THAN 1", LARGE STONES, BRUSH, SOD, FROZEN MATERIAL OR OTHER UNSUITABLE SUBSTANCES THAT MAY DAMAGE PIPE DURING THE BACKFILLING OPERATIONS. SEPARATE OUT ROCKS LARGER THAN 1 INCH IN ANY DIRECTION FROM EXCAVATED MATERIAL, AND REMOVE FROM AREAS TO RECEIVE LANDSCAPING. COVER FOR BOTH TOP AND SIDES OF PIPE SHALL BE A MINIMUM OF 2 INCHES OF ROCK-FREE SOIL, SAND, OR OTHER APPROVED MATERIAL.
   2. IN THE EVENT THAT THE MATERIAL FROM THE EXCAVATION OR TRENCHING IS FOUND TO BE UNSUITABLE FOR USE IN BACKFILL, IT SHALL BE REMOVED FROM THE SITE AND PROPERLY AND LEGALLY DISPOSED OF BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL THEN PURCHASE AND AND FURNISH SUITABLE BACKFILL MATERIAL CONSISTING OF EARTH, LOAM, SANDY CLAY, SAND OR OTHER APPROVED MATERIALS FREE OF DEBRIS.
J. BACKFLOW PREVENTER INSTALLATION. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING WATER SOURCES AT LOCATION SHOWN ON PLANS AND AS APPROVED BY THE OWNER, AND SHALL MAKE ANY MINOR CHANGES IN LOCATION AS MAY BE NECESSARY DUE TO ACTUAL SITE CONDITIONS. BACKFLOW PREVENTER HEIGHT SHALL BE AS PER LOCAL CODES AND IRRIGATION DETAILS. INSTALL A BRASS BALL VALVE IMMEDIATELY UPSTREAM OF THE BACKFLOW DEVICE TO SERVE AS AN ISOLATION VALVE. TO EVERY EXTENT POSSIBLE, INSTALL BACKFLOW PREVENTER ION A LOCATION SCREENED FROM PUBLIC VIEW (SUCH AS BEHIND A SHRUB ROW).
K. PIPING
   1. PIPE SIZE SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS FOR LARGER SIZES MAY BE APPROVED.
   2. MAINLINE PIPE AND WIRES SHALL BE INSTALLED WITH A MINIMUM COVER OF 18 INCHES (24" FOR MAINLINE 3"-5", AND 30" FOR MAINLINE 6" AND GREATER). LATERAL PIPE SHALL BE INSTALLED WITH A MINIMUM COVER OF 12 INCHES.
   3. ASSEMBLE ALL THREADED FITTINGS WITH TEFLON TAPE. WHICH SHALL BE APPLIED TO MALE THREADS ONLY.
   4. ALL SOLVENT-WELD CONNECTIONS SHALL BE MADE WITH APPROVED SOLVENT-WELD PRIMER AND GLUE.
   5. PIPE SHALL BE INSTALLED WITH A MINIMUM OF 4" HORIZONTAL CLEARANCE FROM ANY OTHER PIPE AND 2" VERTICAL CLEARANCE FROM ANY PIPES THAT CROSS OVER OR UNDER.
L. VALVES
   1. VALVES SHALL BE INSTALLED PER MANUFACTURER'S DIRECTIONS AND THE IRRIGATION DETAILS.
   2. VALVE BOXES SHALL BE INSTALLED FLUSH WITH THE GRADE, WITH CLEAN PEA GRAVEL LOCATED BELOW THE VALVE AS NOTED ON THE DETAILS. LOCATE BOXES WITHIN 12 TO 24" OF SIDEWALKS OR LANDSCAPE EDGES, WITH TOPS OF BOXES 1" ABOVE FINISH GRADE IN TURF, AND 3" ABOVE FINISH GRADE IN SHRUB AREAS (TO AVOID BEING COVERED BY MULCH).
   3. EACH VALVE BOX COVER SHALL BE HEAT-BRANDED WITH THE CONTROLLER STATION NUMBER.
   4. DO NOT INSTALL MORE THAN TWO VALVES IN A JUMBO BOX.
M. DRIP IRRIGATION EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S DIRECTIONS AND THE IRRIGATION DETAILS.
   1. SUBSURFACE DRIP LINES SHALL BE BURIED NO MORE THAN 2" BELOW FINISH GRADE.
   2. DRIP LINES MOUNTED ON GRADE SHALL BE LOCATED BENEATH LANDSCAPE FABRIC, AND SECURED IN PLACE WITH WIRE STAPLES AT A MAXIMUM OF 24"-36" ON CENTER.
N. SPRAY, ROTOR, AND BUBBLER HEADS:
   1. ALL SPRAY AND ROTOR HEAD LOCATIONS SHALL BE STAKED, FLAGGED AND/OR OTHERWISE CLEARLY MARKED ON THE GROUND PRIOR TO INSTALLATION. SPRINKLER HEAD STAKING SHALL BE INSPECTED AND APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE INSTALLATION.
   2. ALL SPRAY HEADS SHALL BE CONNECTED WITH A 12 INCH MINIMUM LENGTH OF ½ INCH FLEX PVC. THE FLEX PVC SHALL BE SOLVENT WELDED TO SCHEDULE 40 PVC FITTINGS WITH WELD-ON #795 SOLVENT AND #P-70 PRIMER. ALL ROTORS SHALL BE CONNECTED TO LATERAL LINES WITH PRE-MANUFACTURED SWING JOINTS.
   3. ALL ROTOR, SPRAY AND BUBBLER HEADS SHALL BE SET PERPENDICULAR AND FLUSH TO FINISH GRADE AND WITH A CLEARANCE OF FOUR INCHES (MINIMUM) FROM THE EDGE OF ANY BUILDINGS, WALLS, BOULDERS, AND HARDSCAPE, WITH A CLEARANCE OF TWELVE INCHES (MINIMUM) FROM BUILDINGS, UNLESS OTHERWISE SPECIFIED.
   4. ALL ROTOR, SPRAY AND BUBBLER HEADS AND VALVES SHALL BE FLUSHED AND ADJUSTED FOR OPTIMUM COVERAGE WITH MINIMUM OVERSPRAY ON WALKS, STREETS, WALLS, ETC.
   5. LATERAL PIPE TO TREE STREAM BUBBLER HEADS IS OMITTED FOR GRAPHIC CLARITY. CONNECT TREE BUBBLER HEADS TO VALVES AS SHOWN WITH CLASS 200 PVC PIPE SIZED TO ALLOW A MAXIMUM FLOW VELOCITY OF 5 FEET PER SECOND
O. AUTOMATIC CONTROLLER.
   1. INSTALL THE CONTROLLER AT THE LOCATION INDICATED BY THE OWNER. INSTALL CONTROLLER WITH A BACKUP BATTERY AS RECOMMENDED BY THE MANUFACTURER.
   2. THE IRRIGATION CONTRACTOR SHALL COORDINATE 120 V.A.C. ELECTRICAL POWER TO CONTROLLER AND DEDICATE ONE (1) 20-AMP BREAKER FOR EACH CONTROLLER. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO MAKE THE FINAL HOOK-UP FROM THE ELECTRICAL SOURCE TO THE CONTROLLER UNIT ONLY.
   3. ALL VALVE CONTROL WIRE SHALL BE AWG 14 TYPE UF, 600 VOLT TEST, DIRECT BURIAL. NO SPLICES SHALL BE ALLOWED EXCEPT AT VALVES AND CONTROLLER. WHERE SPLICES MAY BE NECESSARY DUE TO EXCESSIVELY LONG WIRE RUNS, THE CONTRACTOR SHALL MAKE ALL SPLICES IN 6" ROUND VALVE BOXES WITH 3M'S "DBY-DIRECT BURIAL SPLICE KIT". THE CONTRACTOR SHALL LABEL ALL WIRES WITH WATERPROOF TAGS AND MARKERS AT ALL SPLICES AND VALVE MANIFOLDS, AND SHALL LEAVE A 24" COIL OF EXCESS WIRE AT EACH CONNECTION.
   4. PROVIDE #10 COMMON WIRE, DIRECT BURIAL, TO ALL REMOTE CONTROL VALVES.
   5. CONNECT ALL DIRECT BURIAL WIRES TO VALVES USING 3M'S "DBY-DIRECT BURIAL SPLICE KIT" (UNLESS OTHERWISE SPECIFIED).
   6. PROVIDE THREE ADDITIONAL IRRIGATION CONTROL WIRES ALONG EACH BRANCH OF MAINLINE FOR FUTURE EXPANSION. STUB ADDITIONAL CONTROL WIRES INTO BACK OF IRRIGATION CONTROLLERS.
   7. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL CONTROL WIRE SLEEVES AND PIPE SLEEVES UNDER PAVED AREAS PRIOR TO PAVING - SEE SLEEVING NOTES.
P. INSTALL THE RAIN SENSOR IN THE VICINITY OF THE CONTROLLER, AND COORDINATE LOCATION WITH THE OWNER. PROVIDE MINIMUM 5' CLEARANCE FROM OTHER OUTDOOR EQUIPMENT, FREE AND CLEAR OF ANY TREE CANOPY OR OTHER OVERHEAD OBSTRUCTIONS, AND ABOVE THE HEIGHT OF THE SPRINKLER COVERAGE. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THE RAIN SENSOR IS PLACED IN A LOCATION WHERE IT CAN RECEIVE ADEQUATE RAINFALL WITHOUT OBSTRUCTIONS. IF IT IS PLACED IN AN INADEQUATE LOCATION, THE IRRIGATION CONTRACTOR MAY BE REQUIRED TO RELOCATE IT AT NO ADDITIONAL COST TO THE OWNER.
Q. THE PUMP SHALL NOT BE STARTED UNTIL A REPRESENTATIVE OF THE PUMP MANUFACTURER INSPECTS THE INSTALLATION AND START-UP. ANY DAMAGE TO THE PUMP WITHOUT A WRITTEN REPORT FROM THE MANUFACTURER'S REPRESENTATIVE SHALL, AT THE OWNER'S OPTION, BE IMMEDIATELY REPAIRED OR REPLACED AT THE CONTRACTOR'S OWN COST.
R. ALL IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
S. QUALITY CONTROL
   1. PERFORM COVERAGE TESTS AFTER IRRIGATION SYSTEM IS COMPLETED, BUT PRIOR TO ANY PLANTING AND PERFORM TESTING IN THE PRESENCE OF THE IRRIGATION DESIGNER AND THE CONSTRUCTION MANAGER.
   2. TEST SYSTEM TO ASSURE THAT ALL LAWN AND PLANTING AREAS ARE WATERED COMPLETELY AND UNIFORMLY.
   3. MAKE ALL NECESSARY ADJUSTMENTS TO PROVIDE COMPLETE COVERAGE, INCLUDING REALIGNMENT OF HEADS AND REPLACEMENT OF NOZZLES.
T. CLEAN UP
   1. DURING IRRIGATION EXCAVATION AND INSTALLATION, KEEP ALL PAVEMENT CLEAN AND ALL WORK AREAS IN A NEAT, ORDERLY CONDITION.
   2. DISPOSED LEGALLY OF ALL EXCAVATED MATERIALS OFF THE PROJECT SITE.
U. INSPECTION AND ACCEPTANCE
   1. UPON COMPLETION OF THE WORK, THE IRRIGATION CONTRACTOR SHALL PROVIDE THE SITE CLEAN, FREE OF DEBRIS AND TRASH, AND SUITABLE FOR USE AS INTENDED. THE IRRIGATION CONTRACTOR SHALL THEN REQUEST AN INSPECTION BY THE OWNER TO DETERMINE FINAL ACCEPTABILITY.
   2. WHEN THE INSPECTED WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REPLACE AND/OR REPAIR THE REJECTED WORK TO THE OWNER'S SATISFACTION WITHIN 24 HOURS.
   3. THE MAINTENANCE PERIOD WILL NOT COMMENCE UNTIL THE WORK HAS BEEN RE-INSPECTED BY THE OWNER AND FOUND TO BE ACCEPTABLE. AT THAT TIME, A WRITTEN NOTICE OF FINAL ACCEPTANCE WILL BE ISSUED BY THE OWNER, AND THE MAINTENANCE AND GUARANTEE PERIODS WILL COMMENCE.
   4. CONTROLLER CHART: THE IRRIGATION CONTRACTOR SHALL PROVIDE A 11" X 17" COLOR-CODED, LAMINATED COPY OF THE IRRIGATION LAYOUT AND PLACE IT IN THE CONTROLLER'S COVER. THE CONTROLLER CHART SHALL CLEARLY DELINEATE THE AREAS COVERED BY EACH VALVE, USING A SEPARATE COLOR FOR EACH ZONE.
   5. TURN THE FOLLOWING ITEMS IN TO THE OWNER UPON COMPLETION OF THE INSTALLATION:
      a. QUICK COUPLER KEYS (2)
      b. CONTROLLER MANUAL (1)
      c. CONTROLLER KEYS (2)
      d. A MINIMUM OF (2) COPIES OF RECORD DRAWINGS. A RECORD DRAWING IS A RECORD OF ALL CHANGES THAT OCCURRED IN THE FIELD AND THAT ARE DOCUMENTED THROUGH CHANGE ORDERS, ADDENDA, OR CONTRACTOR/CONSULTANT DRAWING MARKUPS.
V. REFER TO THE TYPE PLANTING SPECIFICATIONS FOR ADDITIONAL CONDITIONS OF FINAL ACCEPTANCE AND START OF THE MAINTENANCE PERIOD.
W. WARRANTY
   1. THE IRRIGATION SYSTEM SUPPLIED AND INSTALLED SHALL BE WARRANTED (LABOR AND MATERIALS) TO REMAIN OPERATIONAL FOR A PERIOD OF 12 MONTHS AFTER THE DATE OF FINAL ACCEPTANCE. DURING THIS PERIOD, THE CONTRACTOR SHALL ALSO REPAIR ANY SETTLEMENT OF THE IRRIGATION TRENCHES.
   2. BY THE END OF THE WARRANTY PERIOD, ANY IRRIGATION PART THAT IS EITHER NON-OPERATIONAL OR THAT IS OPERATING BELOW STANDARDS AS DETERMINED BY THE OWNER, SHALL BE REMOVED FROM THE SITE AND SHALL BE REPLACED. REPLACEMENTS SHALL BE OF THE SAME KIND AS SPECIFIED IN THE IRRIGATION LEGEND, AND SHALL BE INSTALLED AS ORIGINALLY SPECIFIED.
   3. IRRIGATION PARTS DAMAGED OR IMPAIRED DUE TO ACTS OF GOD, VANDALISM, AND/OR THE OWNER'S IMPROPER MAINTENANCE SHALL NOT BE COVERED BY THIS WARRANTY.
X. SHOULD THE PERMITTING JURISDICTION REQUIRE AN IRRIGATION AUDIT, THE IRRIGATION CONTRACTOR SHALL RETAIN THE SERVICES OF A THIRD-PARTY CERTIFIED LANDSCAPE IRRIGATION AUDITOR, AT NO ADDITIONAL COST TO THE OWNER.

ZONE PRESSURE LOSS CHART

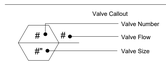
ZONE #	ZONE GPM	ZONE TYPE	PSI LOSS AT WATER METER	PSI LOSS AT BACKFLOW	PSI LOSS AT MASTER VALVE	PSI LOSS AT MAINLINE	PSI LOSS AT ZONE VALVE	PSI LOSS AT LATERAL PIPE	PSI LOSS AT HEAD / NOZZLE	TOTAL PSI REQUIRED	RESIDUAL PSI
1	8.5	SPRAY	1.3	11.0	2.0	0.56	2.0	3.5	35.0	55.36	9.64
2	9	BUBBLER	1.0	11.0	2.0	0.45	2.0	3.5	25.0	44.95	20.05
3	9	DRIP	0.8	11.0	2.0	0.35	3.0	3.5	35.0	55.65	9.35
4	4	SPRAY	0.6	11.0	2.0	0.19	2.0	3.5	35.0	54.29	10.71
5	8.5	DRIP	1.3	11.0	2.0	0.56	3.0	3.5	35.0	56.36	8.64
6	6	BUBBLER	0.2	11.0	2.0	0.03	2.0	3.5	25.0	43.73	21.27
7	8	SPRAY	1.0	11.0	2.0	0.45	2.0	3.5	35.0	54.95	10.05
8	7	SPRAY	0.8	11.0	2.0	0.35	2.0	3.5	35.0	54.65	10.35
9	14	BUBBLER	3.1	11.0	2.0	1.26	2.0	3.5	25.0	47.86	17.14

CRITICAL ANALYSIS

1. LOSS AT 1" SERVICE LINE: 22 / 100'	2.0 PSI
2. LOSS AT 1" WATER METER FOR 8 GPM:	1.0 PSI
3. LOSS AT 1" BACKFLOW PREVENTOR	11.0 PSI
4. LOSS AT 1 1/4" MAINLINE	2.12 PSI
5. LOSS AT 1" ELECTRIC VALVE	2.0 PSI
6. LOSS AT SECTION LATERAL PVC PIPE	3.5 PSI
7. LOSS AT MASTER VALVE	2.0 PSI
8. LOSS AT SPRAY HEAD NOZZLE	35 PSI
TOTAL PRESSURE LOSS	58.62 PSI

MINIMUM STATIC PRESSURE SHALL BE 65 P.S.I. AT THE P.O.C.

VALVE KEY

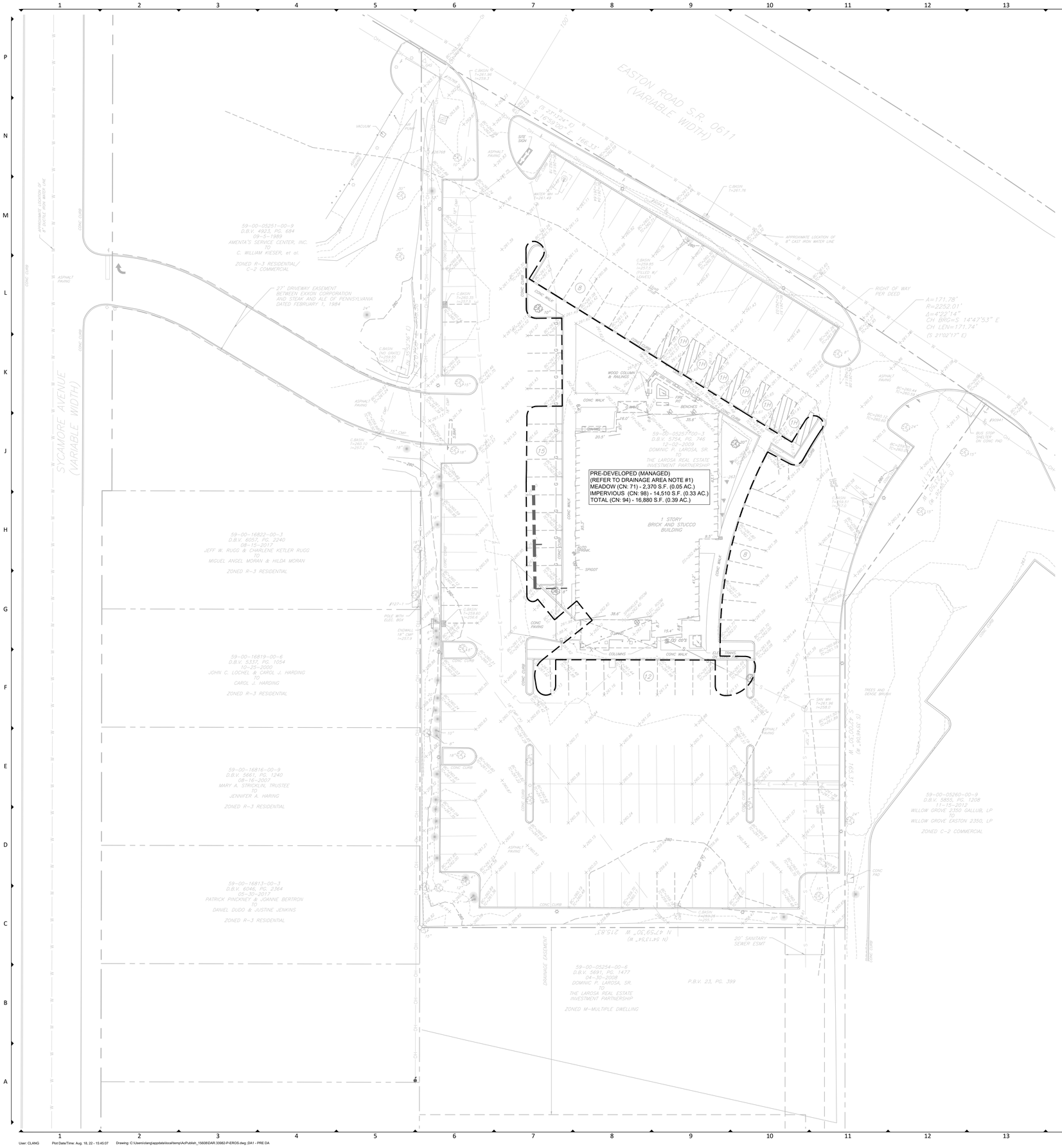


IRRIGATION_LEGEND

SYMBOL	MANUFACTURER/MODEL
	RAIN BIRD R-VAN-STRIP 1806-SAM-P45 ,TURF ROTARY, 5'X15' (LCS AND RCS), 5'X30' (SST) HAND ADJUSTABLE MULTI-STREAM ROTARY W/ 1800 TURF SPRAY BODY ON 6.0" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET.
●	RAIN BIRD R-VAN14 1806-SAM-P45, TURF ROTARY, 8'-14' 45°-270° AND 360° HAND ADJUSTABLE MULTI-STREAM ROTARY W/1800 TURF SPRAY BODY ON 6.0" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET.
	RAINBIRD 1806-SAM-PRS SERIES POP UP SPRAY HEADS WITH ADAPTER AND RAINBIRD #1402 SERIES BUBBLER NOZZLES. (TWO PER TREE) SEE INSTALLATION NOTE #N-5 REGARDING TREE BUBBLER LATERAL PIPE
	RAINBIRD XCZ-100-PRB-COM / 150-PRB-COM SERIES AUTOMATIC DRIP VALVE ASSEMBLY WITH 40 PSI PRESSURE REGULATOR XCZ-100-PRB-COM - 1" BALL VALVE WITH 1" PESB VALVE AND 1" PRESSURE REGULATING 40PSI QUICK-CHECK BASKET FILTER. 0.3GPM TO 20GPM. XCZ-150-PRB-LCDR - 1-1/2" PESB-R SCRUBBER GLOBE VALVE WITH SINGLE 1-1/2" PRESSURE REGULATING (40PSI) QUICK-CHECK BASKET FILTERS. FLOW RANGE: 15-62GPM.
	RAINBIRD PEB SERIES ELECTRIC REMOTE CONTROL, "TREE BUBBLER ZONE" VALVE SEE INSTALLATION NOTE #N-5 REGARDING TREE BUBBLER LATERAL PIPE
	RAIN BIRD PEB SERIES 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.
	AREA TO RECEIVE DRIPLINE RAINBIRD XFS-CV-06-12 SERIES DRIP TUBE IN SHRUB BED INSTALLED AT 2" DEPTH
	ZURN / WILKINS 375XLB SERIES REDUCED PRESSURE TYPE BACKFLOW PREVENTOR INSTALLED PER CITY CODE WITH SAME SIZE BRONZE BALL VALVE INSTALLED ON THE UP-STREAM SIDE. MOUNTED IN STRONGBOX SMOOTH TOUCH ENCLOSURE.
	LASCO "V101N" SERIES SCH. 80 PVC TRUE UNION BALL VALVE, MAINLINE SIZE
M	IRRIGATION WATER METER AND TAP, SIZE AS NOTED ON THE PLAN
3G	RAINBIRD 33-DNP QUICK COUPLING VALVE WITH LOCKING PURPLE COVER AND 3/4" PVC BALL VALVE
C	RAINBIRD ESP12LXMEF SERIES AUTOMATIC WALL MOUNT CONTROLLER
R	WR2-RFC RAIN / FREEZE SENSOR LOCATE SENSOR AS FIELD DIRECTED BY THE LANDSCAPE ARCHITECT
	"MASTER" ELECTRIC VALVE (SAME SIZE AS METER) WITH RAINBIRD FLOW SENSOR MODEL #FS100B SERIES
	IRRIGATION LATERAL LINE: CLASS 200
	IRRIGATION MAINLINE: SCHEDULE 40 PVC
	IRRIGATION SLEEVE, SCH. 40 PVC, MIN. TWICE SIZE OF PIPE TO BE INSERTED
	IRRIGATION SLEEVES, SCH. 40 PVC, MIN. TWICE SIZE OF PIPE TO BE INSERTED

NOTE: L.I.C. SHALL SELECT R-VAN SPRAY NOZZLES FOR "HEAD-TO-HEAD" COVERAGE, ADJUSTED FOR NO OVERSPRAY ONTO WALLS AND WALKS. NO OVERSPRAY INTO STREETS IS PERMITTED.
*** ALL PIPE TO BE SIZED SUCH THAT FLOWS WILL NOT EXCEED VELOCITY OF 5 FPS ***

IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 PVC CLASS 200 IRRIGATION PIPE. ONLY LATERAL TRANSITION PIPE SIZES 1" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 3/4" IN SIZE.



DRAINAGE NOTES:

1. A CONFERENCE CALL WAS HELD ON APRIL 8TH, 2022 REGARDING STORMWATER DESIGN WITH DARDEN CORPORATION, CORE STATES GROUP, AND THE TOWNSHIP ENGINEER, JIM HERSH. THE DRAINAGE AREA SHOWN ON THIS PLAN, DENOTED AS STORMWATER MANAGEMENT AREA, WAS DECIDED TO BE THE AREA CONSIDERED FOR STORMWATER MANAGEMENT. ALL CALCULATIONS REGARDING VOLUME CONTROL, WATER QUALITY, AND PEAK RATE REDUCTION ARE BASED ON THIS AREA.. PLEASE REFER TO THE STORMWATER MANAGEMENT AREA INSET ON THIS PLAN FOR THE AFOREMENTIONED AREA.

DRAINAGE AREA LEGEND

- EXISTING PROPERTY BOUNDARY LINE
- EXISTING ADJOINING PROPERTY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CURB
- EXISTING TREE
- EXISTING SIGNAGE
- EXISTING BOLLARD
- EXISTING 5' INTERVAL CONTOUR LINE
- EXISTING 1' INTERVAL CONTOUR LINE
- EXISTING WATER MAIN
- EXISTING UNDERGROUND ELECTRIC
- EXISTING TELEPHONE
- EXISTING OVERHEAD WIRES
- EXISTING SANITARY
- EXISTING STORM
- EXISTING GAS MAIN
- EXISTING UTILITY POLE
- EXISTING STORM STRUCTURES
- EXISTING SANITARY STRUCTURES
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING TELEPHONE STRUCTURE
- EXISTING ELECTRIC STRUCTURE
- EXISTING LIGHT POLE
- EXISTING SOIL BOUNDARY
- DRAINAGE AREA DIVIDE

Know what's below. Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THE PLANS AND/OR OTHER DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

CORE STATES GROUP
201 S. Maple Avenue
Ambler, PA 19002
Phone (215) 809-2125
BSearcy@core-states.com

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Olive Garden ITALIAN KITCHEN

ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED ENGINEER
BRIAN L. SEARCY
PE083256

08/18/2022

BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION

1 08-18-2022
AGENCY REVISIONS

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD
WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

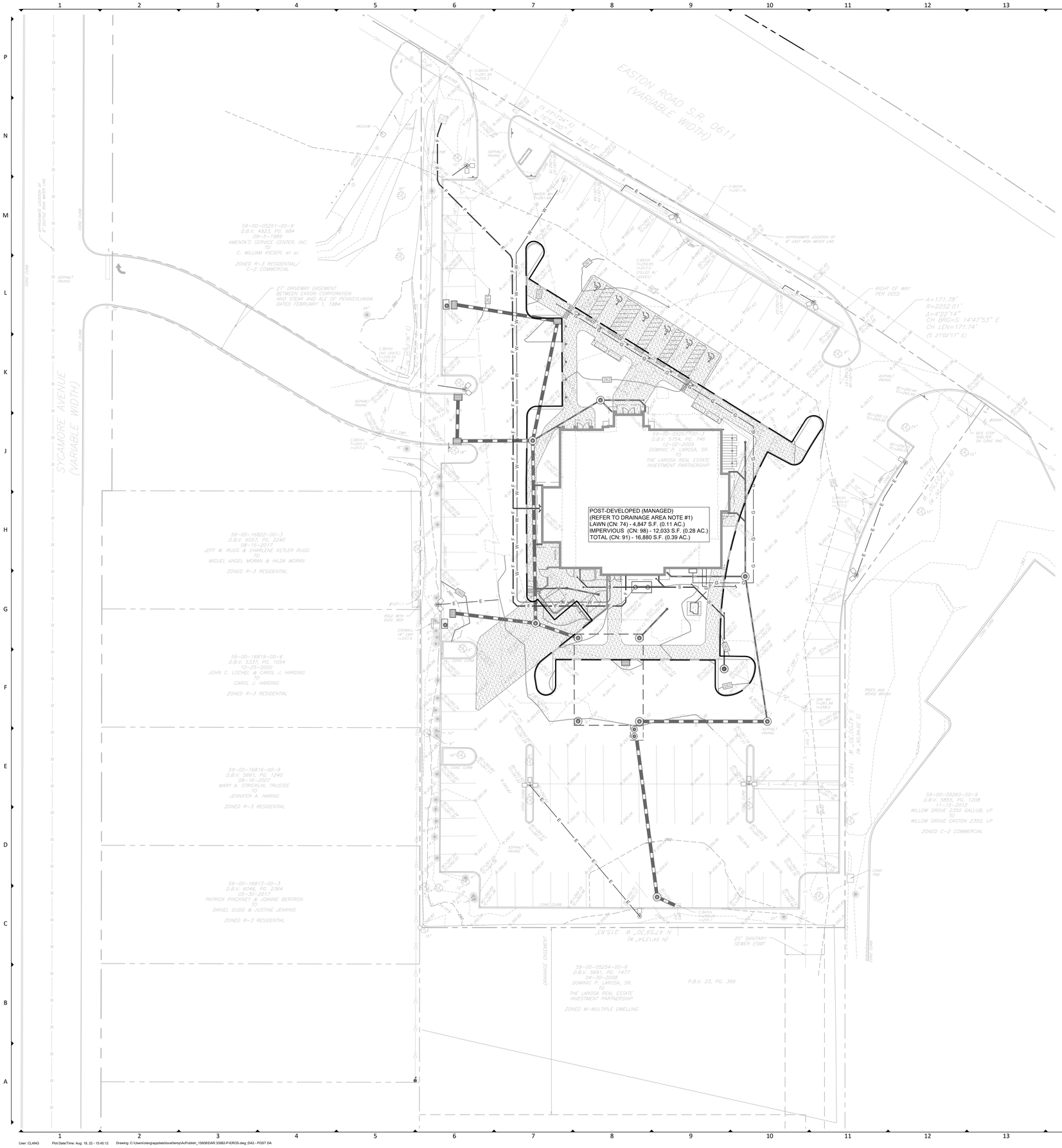
WILLOW GROVE, PA

Drawing

PRE-DEVELOPED
DRAINAGE AREA
PLAN

DA1

User: CLANG Plot Date/Time: Aug. 18, 22 - 15:45:07 Drawing: C:\Users\clang\appdata\local\temp\AcPublish_15608\DAR.33982-P-EROS.dwg ,DA1 - PRE DA



DRAINAGE NOTES:

1. A CONFERENCE CALL WAS HELD ON APRIL 8TH, 2022 REGARDING STORMWATER DESIGN WITH DARDEN CORPORATION, CORE STATES GROUP, AND THE TOWNSHIP ENGINEER, JIM HERSH. THE DRAINAGE AREA SHOWN ON THIS PLAN, DENOTED AS STORMWATER MANAGEMENT AREA, WAS DECIDED TO BE THE AREA CONSIDERED FOR STORMWATER MANAGEMENT. ALL CALCULATIONS REGARDING VOLUME CONTROL, WATER QUALITY, AND PEAK RATE REDUCTION ARE BASED ON THIS AREA.. PLEASE REFER TO THE STORMWATER MANAGEMENT AREA INSET ON THIS PLAN FOR THE AFOREMENTIONED AREA.

DRAINAGE AREA LEGEND

- EXISTING PROPERTY BOUNDARY LINE
- EXISTING ADJOINING PROPERTY LINE
- EXISTING SETBACK
- EXISTING BUILDING
- EXISTING CURB
- EXISTING TREE
- EXISTING SIGNAGE
- EXISTING BOLLARD
- EXISTING 5' INTERVAL CONTOUR LINE
- EXISTING 1' INTERVAL CONTOUR LINE
- EXISTING WATER MAIN
- EXISTING UNDERGROUND ELECTRIC
- EXISTING TELEPHONE
- EXISTING OVERHEAD WIRES
- EXISTING SANITARY
- EXISTING STORM
- EXISTING GAS MAIN
- EXISTING UTILITY POLE
- EXISTING STORM STRUCTURES
- EXISTING SANITARY STRUCTURES
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING TELEPHONE STRUCTURE
- EXISTING ELECTRIC STRUCTURE
- EXISTING LIGHT POLE
- PROPOSED CURB
- PROPOSED FLUSH CURB
- PROPOSED BUILDING
- PROPOSED EDGE OF PAVEMENT
- PROPOSED CONCRETE
- PROPOSED PARKING STRIPING
- PROPOSED SIGN
- PROPOSED DETECTABLE WARNING SURFACE
- PROPOSED STORM STRUCTURE
- PROPOSED SANITARY STRUCTURE
- PROPOSED WATER PIPE
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED SANITARY PIPE
- PROPOSED STORM PIPE
- PROPOSED GAS PIPE
- PROPOSED 5' INTERVAL CONTOUR LINE
- PROPOSED 1' INTERVAL CONTOUR LINE
- EXISTING SOIL BOUNDARY
- PROPOSED UNDERGROUND DETENTION / INFILTRATION BASIN
- DRAINAGE AREA DIVIDE

GRAPHIC SCALE
20 10 5 0 20
1" = 20'

Know what's below. Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON BOOK AND FIELD REFERENCES AND MAY NOT REFLECT ACTUAL CONDITIONS. ACTUAL MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THE ACCURACY OF SUCH INFORMATION. THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

CORE STATES GROUP
201 S. Maple Avenue
Ambler, PA 19002
Phone (215) 809-2125
BSearcy@core-states.com

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Olive Garden ITALIAN KITCHEN

ENGINEER SEAL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED ENGINEER
BRIAN L. SEARCY
ENGINEER
PE083256

08/18/2022
BRIAN SEARCY, P.E.
PA LICENSE #PE083256

Issue Date: 04.27.2022

REVISION INFORMATION

⚠ 08-18-2022
AGENCY REVISIONS

Restaurant #: xxxx

OLIVE GARDEN

2402 EASTON ROAD

WILLOW GROVE, PA 19090

AUTHORIZED FOR:
PERMIT / BID

WILLOW GROVE, PA

Drawing

POST-DEVELOPED DRAINAGE AREA PLAN

DA2

User: CLANG Plot Date/Time: Aug. 18, 22 - 15:45:12 Drawing: C:\Users\clang\appdata\local\temp\AcPublish_15608\DAR.33982-P-EROS.dwg, DA2 - POST DA

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

September 13, 2022

File No. 22-06026

Paul Purtell, Code Enforcement Director
Upper Moreland Township
117 Park Avenue
Willow Grove, PA 19090

Reference: 2402 Easton Road
Olive Garden Italian Kitchen
Land Development Review 2

Dear Paul:

Pursuant to your request, Gilmore & Associates, Inc. has reviewed the submitted land development plans for the above-referenced project. Upon review, we offer the following comments for consideration by Upper Moreland Township.

I. Submission

A. Preliminary/Final Land Development Plans, prepared for Olive Garden Italian Kitchen, prepared by Core States Group, dated April 27, 2022, last revised August 18, 2022 consisting of Sheets 1 to 24 of 24.

B. Drainage Area Plans, prepared by Core States Group, dated April 27, 2022, last revised August 18, 2022.

C. Stormwater Management Report, prepared by Core States Group, dated April 27, 2022, last revised August 19, 2022.

D. Photometric Plan prepared by CREE Lighting, dated August 17, 2022, consisting of one (1) sheet.

E. ALTA/NSPS Land Title Survey prepared by Civil & Environmental Consultants, Inc. dated December 8, 2021, consisting of one (1) sheet.

II. General Information

The subject property. TMP #59-00-05257-00-3, is located at 2402 Easton Road within the Township's C-2 Commercial and M Multiple Dwelling Zoning Districts between Sycamore Avenue and Home Depot Drive. The two-acre property contains the Brick House restaurant with associated parking areas, landscaping, lighting, and pedestrian walkways. Runoff from the existing improvements is collected by inlets and discharges to an existing basin located on the adjacent property to the south. The Applicant is proposing to demolish the existing restaurant building and a portion of the parking area to construct a 6,501 square-foot Olive Garden restaurant. Additional improvements include parking area reconfiguration, landscaping, lighting, and underground utility improvements. To handle runoff from the proposed improvements, the Applicant is proposing to install an underground detention basin. The site will continue to be serviced by public water and sewer.

III. Review Comments

A. Zoning Ordinance

We have identified no issues with the proposed plan with respect to the requirements and provisions of the current Upper Moreland Township Zoning Ordinance (Chapter 350).

B. Waiver Requests

1. §300-17.D – From the requirement that no less than 20 feet of open space be provided between the curb line of any parking areas and the outside wall of the principal building.

2. §300-18 – From the requirement to install sidewalks along Easton Road.

3. §300-19.A(7) – To permit 6-inch reveal curbs where 8-inch reveal is required by Ordinance.

4. §300-52.C – To allow the use of an aerial photograph plan in-lieu-of survey of all existing features within 400 feet of the property.

5. §300-43.D(2) – To permit rows of parking with 15, 18, 19, and 25 spaces where the maximum per Ordinance is 12 spaces.

C. Subdivision and Land Development Ordinance (SALDO)

We have identified the following issues with respect to the requirements and provisions of the current Upper Moreland Township Subdivision & Land Development Ordinance (Chapter 300):

1. §300-14.G – The Board of Commissioners (Board) may grant modification to the requirements of this ordinance provided the Applicant proves undue hardship. Any waivers should be formally requested from the Township unless the plans are revised to address all comments of this letter relative to the SALDO and Stormwater Ordinances.

2. §300-16 – We defer to McMahon & Associates, Inc. with respect to site access and circulation.

3. §300-26 – The plans should be submitted to the Upper Moreland – Hatboro Joint Sewer Authority for review.

4. §300-27 – The plans should be submitted to Aqua PA for review and a copy of the agreement with Aqua PA provided upon receipt.

5. §300-32 – We defer to the Township's Fire Marshal for review and approval of the plans. Approval from the Fire Marshal is required prior to recording of the plan.

6. §300-34.F – The Applicant is required to contribute a fee-in-lieu of open space dedication in accordance with this section. We calculate the fee based on 6,501 S.F. of leasable floor area within the building and $500.00 per 1,000 S.F. of required open space, to be $650.10.

7. §300-39 – We defer review of the plans with respect to the landscaping requirements of the Ordinance to McCloskey & Faber.

8. §300-59 – The Applicant is required to post financial security to guarantee the construction of the proposed improvements. An Engineer's Opinion of Probable Cost was included with this plan submission and we will review under separate cover.

9. The Applicant is responsible for all other required approvals, permits, etc. (i.e., MCPC, MCCD, PADEP, PennDOT, Municipal Authority, Fire Marshal, etc.) Copies of these permits or approvals shall be forwarded to the Township.

D. Stormwater Management Ordinance

We have identified the following issues with the proposed plan with respect to the requirements and provisions of the current Upper Moreland Township Stormwater Management Ordinance (Chapter 287):

1. The applicant is required to enter into a Stormwater Ownership & Maintenance Agreement with the Township for the proposed on-site stormwater controls. The document will be prepared by the Township Solicitor and executed prior to recording of the plan.

If you have any questions regarding the above, please contact this office.

Sincerely,



James J. Hersh, P.E.
Senior Project Manager
Gilmore & Associates, Inc.

JJH/

cc: Mathew Candland, Township Manager
Sean Kilkenny, Esq., Township Solicitor
Kim Flanders, RLA, McCloskey & Faber, PC
Chad Dixon, P.E., McMahon & Associates
Brian Searcy, P.E., Core States Group
Sandi LeBlanc, Olive Garden Holdings, LLC

McCloskey & Faber, P.C.
Landscape Architecture • Land Planning • Graphic Design

September 12, 2022

Mr. Paul E. Purtell
Director, Code Enforcement
Upper Moreland Township
117 Park Avenue
Willow Grove, PA 19090

Reference: Second Landscape Plan Review for **Olive Garden, 2402 Easton Road,** Upper Moreland Township, Montgomery County, PA; M&F No. 215

Dear Mr. Purtell:

We are in receipt of a revised Land Development Plan submission consisting of thirty-two sheets dated August 18, 2022 prepared by Core States, Inc. Proposed landscape development is shown on Sheets L1., L1.2 & LS1, prepared by Evergreen Design Group, in conjunction with Core States, Inc. Existing site conditions were observed on June 30, 2022.

The applicant proposes to construct an Olive Garden restaurant with associated parking within the existing parking lot of the former Brick House Restaurant. The site is located in the C-2 Commercial and M-Multiple Dwelling Districts.

We offer the following comments relative to the ***landscape-related waiver*** request:

1. **Section 300-43. D (2)** - ***No objection.***

   The proposed plans show rows of parking of 15, 18, 19 and 25 spaces which exceed the 12-space maximum. The 18, 19 and 25 are pre-existing non-conforming conditions. The proposed row of 15 parking spaces is in front of the building, where currently 14 spaces exist. While this increases the existing non-conformity, we note that the parking row is adjacent to landscaped greenspace between the proposed building and sidewalk, and the parking field overall is not a ”sea” of parking.

During our reviews, we have identified ***additional potential landscape-related waivers*** not requested, but appear to be necessary. We offer the following comments:

1. **Section 300-43. D. (1) (d)** - ***No objection.***

   Proposed islands are less than the 15’ width required. We note that three proposed end islands near the building, while not meeting the 15’ width, are wider than existing. Furthermore, irrigation is proposed within the parking lot islands. ***No objection.***

2. **Section 300-43. D. (1) (g)** - ***No objection.***

   Parking lot trees shall be a minimum of three inches in caliper. Four of the proposed parking lot trees are specified to be 1.5" caliper in order to replace poor / dead trees within two existing 4-foot wide islands. The root ball of a larger tree would be too large to appropriately install within the narrow islands.

3. **Section 300-45. A. Replacement trees** - ***No objection.***

   Trees proposed to be removed are assumed to be Parking Lot landscaping and Individual Lot Landscaping that were required trees per the previous development of this site. The Applicant will be replacing the quantity of trees removed and previously proposed.

We have the following ***technical plan*** comments and recommendations:

LANDSCAPE PLAN REQUIREMENTS (Article 5, Section 300-42)

1. Parking lot striping, shown on the previous submission, should be added back to the Landscape Plan.

2. The Landscape Plan was revised to depict existing and proposed underground pipes. As much as is feasible, we recommend that proposed trees are located no closer than 5 feet horizontally from any underground utility.

3. A detailed landscape cost estimate dated August 18, 2022 and prepared by the Project Landscape Architect was included with submission. (Section 300-42 Q.) Unit prices as presented are acceptable. Quantities are to be revised to reflect the Plant Schedule once the final plant count has been determined based on responses to comments in this review. Furthermore, we recommend a line item is included for Irrigation.

PLANTING REQUIREMENTS (Article 5, Section 300-43)

A. Street Trees (Section 300-43, A.)

1. Existing street trees are proposed to be preserved. For clarity, the "Landscape Compliance" table should be revised to include a designation that this is an existing non-conformity.

B. Screen Buffer (Section 300-43, C.)

1. Existing Screen Buffer at residential boundary is in poorly maintained condition. Arborvitae screen is failing due to competition with larger existing deciduous, evergreen and invasive trees.

   1.1. Where arborvitae are to remain, conflicting overhanging branches from deciduous trees should be removed. The note added to the Landscape Plan relative to existing buffer should be expanded to include this information.

1.2. Dead arborvitae should be replaced with shade tolerant evergreen and deciduous shrubs that will attain a mature height of 8 feet.

1.2.1. 9 dead arborvitaes were noted during our review. Gaps for 5 additional shrubs were noted for a total of 14 shrubs recommended. The plan was not fully revised to satisfy this comment. We reached out to the Project Landscape Architect to discuss this in further detail.

1.2.2. A minimum of 25% of the proposed shrubs must be native or adaptive per Table 3.

1.2.3. A minimum of 50% of the shrubs should be evergreen per 300-43 C (4)(a).

C. Parking Area Landscaping (Section 300-43, D.), Individual Lot Landscaping (Section 300-43, G.)

1. Existing Red Maple tree (in poor condition) in island at Sycamore Road entrance (NW of Olive Garden) conflicts with proposed location of one 27' tall light standard. We recommend removal of this tree and replacement with a columnar form shade tree shifted further from the proposed light standard. This comment was not fully addressed with the plan revisions.

The above Landscape Plan review is based on our review of the drawings submitted. It is recommended that the Applicant and their Landscape consultant review and address the recommendations listed in this letter. Further comments may be forth coming following our review of the revised drawings addressing the above comments.

We trust that this landscape plan review letter responds to your request and satisfactorily addresses the landscape ordinance requirements that are apparent to us at this time. If you or the Township have any questions, or require clarification, please contact me.

Very truly yours,

Kimberli J. Flanders, R.L.A.
Assistant to Township Landscape Architect

cc: Matt Candland, Township Manager, Upper Moreland Township (email)
David Elsier – Upper Moreland Township (email)
Jim Hersh, P.E. – Township Engineer (email)
Sean Kilkenny, Esq. and Alex Baumler – Township Solicitor (email)
Brian L. Searcy, PE, Project Engineer, Core States, Inc. (email)
Christopher Lang, E.I.T, Senior Project Designer, Core States Group (email)
Eric M. Shepley, RLA, Project Landscape Architect, Evergreen Design Group
Sandi LeBlanc, L. D. Reeves & Associates Inc., Applicant's representative (email)
Shannon Dunn, Development Manager, Darden (email)
James R. Faber, ASLA, Township Landscape Architect (email)

McMAHON
a Bowman company

September 8, 2022

Mr. Paul Purtell
Director of Code Enforcement
Upper Moreland Township
117 Park Avenue
Willow Grove, PA 19090

RE: **Traffic Review #2 – Preliminary/Final Land Development Plans**
Olive Garden – 2402 Easton Road (S.R. 0611)
Upper Moreland Township, Montgomery County, PA
McMahon Project No. 822632.11

Dear Paul:

Per the request of the Township, McMahon Associates, Inc., a Bowman company, (McMahon) has prepared this letter that summarizes our second (2nd) traffic engineering review of the proposed development to be located at 2402 Easton Road (S.R. 0611) in Upper Moreland Township, Montgomery County, PA. Based on our review of the plans submitted for review, the proposed development will consist of demolishing the existing 7,127 square-foot Brick House Tavern and replacing it with a 6,501 square-foot Olive Garden restaurant. Access to the site will continue to be provided via the existing accesses along Easton Road (S.R. 0611) and Sycamore Avenue. It should be noted that the as part of this development, the northern Easton Road (S.R. 0611) driveway will be modified to provide ingress-only access to the site.

The following documents were reviewed and/or referenced in preparation of our traffic review:

1. Preliminary/Final Land Development Plans for The Olive Garden Italian Kitchen, prepared by CoreStates Group, last revised August 18, 2022.
2. Response to Comments Letter – Olive Garden (2402 Easton Road), prepared by CoreStates Group, dated August 18, 2022.
3. Waiver Request Letter – Olive Garden (2402 Easton Road), prepared by CoreStates Group, dated August 18, 2022.

Based on our review of the documents listed above, McMahon offers the following comments for consideration by the Township and action by the applicant:

1. The applicant is requesting a waiver from the following ordinance requirements:

   - Section 300-17.D – requiring a minimum of 20 feet of open space to be provided between the curb line of any parking area and the outside wall of a building.
   - Section 300-18 – requiring sidewalk to be provided along the Easton Road (S.R. 0611) site frontage.
   - Section 300-19.A(7) – requiring all curbs to be installed with an 8-inch reveal.
   - Section 300-43.D(2)(b) – requiring a maximum of 12 parking spaces in a row without provision of a landscaped parking island.

2. The applicant has provided sight triangles on the plans at the southern driveway along Easton Road (S.R. 0611) and the Sycamore Avenue driveway. The actual sight distance measurements (in feet) should also be depicted on the plans for these driveway locations.

3. Planned roadway improvements on Easton Road (S.R. 0611) may require minor widening along the site frontage of the Olive Garden. The improvement may require right-of-way from the applicant outside of the existing right-of-way. We recommend that the Township discuss this issue further with the applicant to ensure the needed right-of-way for the Easton Road (S.R. 0611) can be secured as part of the land development process or at a future time.

4. The Township Fire Marshal should review the emergency vehicle turning templates for accessibility and circulation needs of emergency apparatus. Ensure that any correspondence, including any review comments and/or approvals, is included in subsequent submissions.

5. Review of the on-site ADA ramps has not been completed by our office, but these ramps must be designed by the applicant's engineers to comply with Federal/PennDOT design standards for ADA facilities.

6. The applicant should coordinate with SEPTA and the Township about the location and existing conditions of the existing bus stop located at the corner of southern driveway along Easton Road (S.R. 0611). Both parties should discuss to determine if there is a more desirable location for the bus stop, and whether additional bus stop amenities should be installed, such as an ADA-compliant bus loading landing.

7. The "Stop" sign on the driveway approach to Sycamore Avenue should be clearly labeled on the plans.

8. The "One-Way" sign on the southern side of the northern Easton Road (S.R. 0611) driveway should be relocated closer to Easton Road (S.R. 0611) and angled so that it is facing southbound Easton Road (S.R. 0611) traffic. In addition, a large arrow pavement marking pointing into the site should be shown on the plans at the eastern end of this driveway.

9. The proposed development will be subject to the Township's Transportation Impact Fee of $1,904 per "new" afternoon peak hour trip in accordance with the Township's *Transportation Impact Fee Ordinance*. Based on Land Use Code 932 (High-Turnover Sit-Down Restaurant) in ITE's publication, *Trip Generation Manual, 11th Edition,* the existing 7,127 square-foot Brick House Tavern would be expected to generate 37 "new" trips during the weekday afternoon peak hour and the proposed 6,501 square-foot Olive Garden restaurant would be expected to generate 34 "new" trips during the weekday afternoon peak hour. Therefore, the proposed Olive Garden restaurant is not subject to the transportation impact fee because it can be expected to generate fewer "new" trips during the weekday afternoon peak hour than the previous use of the site.

10. A PennDOT Highway Occupancy Permit is required for any modifications located within the right-of-way of Easton Road, since Easton Road (S.R. 0611) is a State Roadway. If the applicant pursues any work within the legal PennDOT right of way, the Township and our office must be copied on

all correspondence and submissions to PennDOT, as well as invited to any meetings between the applicant and PennDOT.

11. A response letter must be provided with the resubmission detailing how each comment below has been addressed, and where each can be found in the resubmission materials (i.e., page number(s)) to assist in the re-review process. Additional comments may follow upon review of any resubmitted materials during the land development process.

We trust that this review letter responds to your request and satisfactorily addresses the traffic issues that are related to the proposed development apparent to us at this time. If you or the Township have any questions, or require clarification, please contact me.

Sincerely,

Chad Dixson, AICP, PP
Senior Project Manager

CED/BMJ

cc: Matthew Candland, Upper Moreland Township Manager
Jim Hersh, P.E., Gilmore & Associates

I:\eng\UPPERMO1\822632 - Olive Garden\Project Management\Submissions\2022-08-21 LD Plans\Review\2022-09-08 Review Letter #2 - Olive Garden.docx

MONTGOMERY COUNTY
BOARD OF COMMISSIONERS

VALERIE A. ARKOOSH, MD, MPH, CHAIR
KENNETH E. LAWRENCE, JR., VICE CHAIR
JOSEPH C. GALE, COMMISSIONER

MONTGOMERY COUNTY
PLANNING COMMISSION

MONTGOMERY COUNTY COURTHOUSE • PO BOX 311
NORRISTOWN, PA 19404-0311
610-278-3722 • FAX: 610-278-3941
WWW.MONTCOPA.ORG

SCOTT FRANCE, AICP
EXECUTIVE DIRECTOR

July 6, 2022

Mr. Paul Purtell, Director, Code Enforcement
Upper Moreland Township
117 Park Avenue
Willow Grove, Pennsylvania 19090-3215

Re: MCPC # 22-0159-001
Plan Name: Olive Garden
(1 lot comprising approximately 2 acres)
Situate: 2402 Easton Road (cross streets: Sycamore Avenue and Mill Road)
Upper Moreland Township

Dear Mr. Purtell:

We have reviewed the above-referenced land development in accordance with Section 502 of Act 247, "The Pennsylvania Municipalities Planning Code," as you requested on June 8, 2022. We forward this letter as a report of our review.

BACKGROUND

The applicant, Olive Garden Holdings LLC, is proposing to construct a new 6,501 square-foot restaurant. The property contains an existing building which would be demolished; the proposed restaurant would be constructed in approximately the same location on the site. While the location of the existing driveways would remain the same, the proposal includes the reconstruction of portions of the parking lot, including improvements to the ADA parking and access, and an underground stormwater basin. The property is split-zoned, located in both the C-2 Commercial and M-Multiple Dwelling zoning districts. The use "restaurant" is permitted in the C-2 District by Special Exception (§ 350-75), but is not listed as a permitted use in the M-District. The property is served by public water and sewer.

COMPREHENSIVE PLAN COMPLIANCE

MONTCO 2040 – The proposal is generally consistent with the county's comprehensive plan*, MONTCO 2040: A Shared Vision,* which shows the proposed area as "Community Mixed Use and Services Area". Community Mixed Use areas are designed to serve as local destinations for retail and services.

Upper Moreland 2040 Comprehensive Plan – The property is located in the Commercial Mixed Use future land use area. The comprehensive plan states that commercial mixed use areas consist primarily of suburban style

"strip commercial" development. Pedestrian connectivity and design should be enhanced while respecting the area's suburban character.

RECOMMENDATION

The Montgomery County Planning Commission (MCPC) generally supports the applicant's proposal, however, in the course of our review we have identified the following issues that the applicant and township may wish to consider prior to final plan approval. Our comments are as follows:

REVIEW COMMENTS

NONCONFORMING USE

The property is split-zoned, located in both the C-2 Commercial and M-Multiple Dwelling zoning districts. Restaurant uses are permitted in the C-2 District by Special Exception (§ 350-75), but are not permitted in the M-District. The proposed restaurant would be a continuation of the previous use; therefore, the proposed use would be an existing nonconforming use that would be required to adhere to the standards of Article XXVII Nonconforming Use § 350-223. We do not find issue with the continuation of the use, and defer to the township zoning officer to determine if it is appropriate to classify the property as an existing nonconforming use.

IMPERVIOUS COVERAGE

A. Proposed New Impervious Coverage. The proposed development appears to have less impervious coverage (79.4%) than the existing conditions (81.5%), which is supported by the impervious coverage calculations on Sheet no. C5.1. However, the chart also lists 34,096 square feet, or 0.78 acre, of "proposed new imperious coverage." The calculations do not appear to match with the total area (87,151 square feet), and it is not clear on the plans where the 34,096 square feet of proposed additional imperious coverage would be located on the site. If there is a significant amount of new impervious as this chart suggests (Sheet no. C5.1), there may need to be additional stormwater management controls to mitigate the additional coverage. We commend the applicant for proposing BMPs and underground stormwater detention basin. We defer to the township to determine if there are flooding or other stormwater issues on the site. If there are existing issues, this may be an appropriate time to see if they could be addressed.

STREETSCAPE

A. Sidewalk and Street Trees. There is no sidewalk currently along the Easton Road frontage of the property. The township's Subdivision and Land Development Ordinance (SALDO) requires that sidewalks be provided along all streets (§ 300-18). The abutting property to the north has sidewalks, as do other properties on both sides of Easton Road. We support the continuation of sidewalks in order to enhance pedestrian connectivity, and feel that this land development creates an opportunity to contribute to the furtherance of the pedestrian network.

B. Street Trees. We commend the applicant for proposing to preserve two existing trees along the Easton Road frontage. However, we support the planting of additional trees to provide shade for the parking area and recommended sidewalk. The township SALDO requires street trees to be planted when a sidewalk is

constructed (§ 300-43.A). Due to the location of the parking area in relation to Easton Road, there may not be space to have both a sidewalk and street trees. In order to accommodate additional trees, we recommend the applicant consider adding trees to planting islands along the frontage of the property. Parking lot planting islands are required every twelve parking spaces (§ 300-43.D); the proposed parking lot would maintain the existing layout with 19 parking spaces in a row along the property frontage. We suggest that this length of a parking row would benefit from a planting island.

1. Parking. The applicant is proposing fewer parking spaces than what is currently provided on the property, and would meet the parking requirements for the restaurant use, per § 350-178.B(7). In order to make the additional room that would be needed to accommodate the street trees, however, we suggest that the township coordinate with the applicant to determine if it would be feasible to reduce the amount of parking.

CONCLUSION

We wish to reiterate that MCPC generally supports the applicant's proposal but we believe that our suggested revisions will better achieve Upper Moreland's planning objectives for development along commercial corridors.

Please note that the review comments and recommendations contained in this report are advisory to the municipality and final disposition for the approval of any proposal will be made by the municipality.

Should the governing body approve a final plat of this proposal, the applicant must present the plan to our office for seal and signature prior to recording with the Recorder of Deeds office. A paper copy bearing the municipal seal and signature of approval must be supplied for our files. Please print the assigned MCPC number (22-0159-001) on any plans submitted for final recording.

Sincerely,



Claire Warner, Community Planner II
cwarner@montcopa.org – 610-278-3755

c: Sandi LeBlanc, Olive Garden Holdings LLC, Applicant's Representative
Brian Searcy, Core States Group, Applicant's Engineer
Larosa Real Estate Investment Partnership LP
Gerald Foley, Chair, Township Advisory Planning Agency
Matt Candland, Manager, Upper Moreland Township

Attachment A: Aerial Image of Site
Attachment B: Reduced Copy of Applicant's Proposed Site Plan

ATTACHMENTS A & B

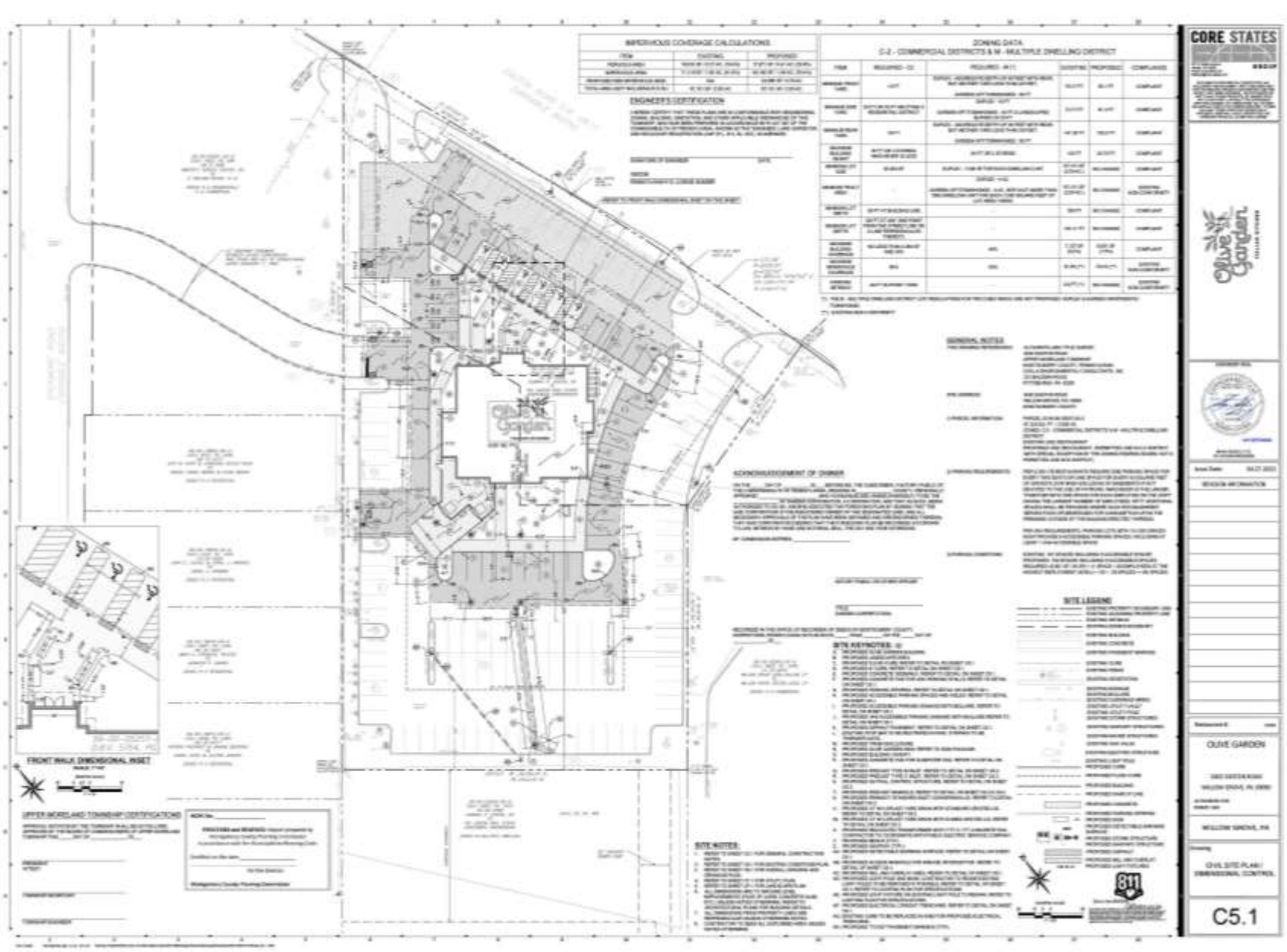


Olive Garden
MCPC#220159001

Montgomery County Planning Commission

0 50 100 200 Feet

N


IMPERVIOUS COVERAGE CALCULATIONS
ZONING DATA
C-2 - COMMERCIAL DISTRICTS & M - MULTIPLE DWELLING DISTRICT
ENGINEER'S CERTIFICATION
GENERAL NOTES
ACKNOWLEDGEMENT OF OWNER
SITE LEGEND
SITE NOTES
SITE KEYNOTES
FRONT WALK DIMENSIONAL INSET
UPPER MORELAND TOWNSHIP CERTIFICATIONS
CORE STATES
OLIVE GARDEN
WILLOW GROVE, PA
CIVIL SITE PLAN / DIMENSIONAL CONTROL
C5.1

Township of Upper Moreland

117 Park Avenue
WILLOW GROVE, MONTGOMERY COUNTY, PENNSYLVANIA 19090
Telephone (215) 659-3100 Ext. 1032/1033 / Fax (215) 659-8899

Paul E. Purtell
Director of Code Enforcement

Upper Moreland Township Board of Commissioners
Community Development Committee Meeting

Agenda Item:	Lot consolidation Plan of Sharon Mallozzi New Street Parcel #'s 59-00-13183-00-6 & 59-00-13183-00-9
Recommended Action:	Move to full Board for vote
Background:	Applicant seeks to consolidate two existing lots into one lot in order to build a new single-family dwelling. Applicant received approval from the UMT Zoning Hearing Board for a lot area less than 14,000 square feet
Fiscal Impact/Source:	N/A
Alternatives:	N/A
Attachments:	Applicant cover letter and application, list of waiver requests, MCPC 247 review and Twp. consultant review letters.

LVL ENGINEERING GROUP

Corporate Office:

559 Main Street, Suite 230
Bethlehem PA 18018

Regional Offices:

1456 Ferry Road, Building 500
Doylestown, PA 18901

2756 Rimrock Drive
Stroudsburg, PA 18360
Mailing
P.O. Box 699
Bartonsville, PA 18321

September 14, 2022

Upper Moreland Township
117 Park Avenue
Willow Grove, PA 19090

SUBJECT: WAIVER REQUESTS
51 NEW STREET – MALLOZZI RESIDENCE
UPPER MORELAND TOWNSHIP, MONTGOMERY COUNTY, PA
PROJECT NO. 228853

Dear Commissioners:

On behalf of our Client, we are submitting the following waiver requests for the above referenced plan.

1. Relief requested to provide a cartway of 30 feet (SALDO SECTION 300-15.B(1)(b).

   We are requesting this waiver as the existing road cartway is approximately 24 feet wide and the project is an infill residential dwelling within an existing neighborhood. Providing a wider cartway along the frontage of this individual lot would be out of character with the adjacent cartway.

2. Relief requested to not provide sidewalks (SALDO SECTION 300-18)

   We are requesting a waiver to not provide sidewalks along New Street. There are no sidewalks on New Street currently, and sidewalks would not be in character with the rest of the development.

3. Relief requested to replace a tree previously removed with a street tree (SALDO SECTION 300-45)

   A tree on New Street was previously removed due to future disturbance. A Street Tree is proposed as a replacement tree. If required, a waiver is requested from the requirement to provide additional replacement trees.

4. Relief requested from the general standards for land developments and subdivisions as this plan is a lot line change. (SALDO SECTION 300-54)

   A waiver is requested from the general standards for land developments and subdivisions as the plan is proposing to consolidate two lots into one building lot. The information required for this consolidation is included on the plan.

5. Relief requested from providing a Preliminary Plan (SALDO SECTION 300-55)

   Relief is requested to provide a combined Preliminary/Final Plan as the proposed plan is to remove a lot line to consolidate two existing lots into one lot.

If you should have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Kris J. Reiss, P.E.
Project Manager

KJR/tms

cc: James D'Angelo

s:\2022\228853\documents\correspondence\municipality\ltr waiver request.doc

Upper Moreland Township
APPLICATION FOR APPROVAL OF PLAN

Submission date:_____Application number_____

To the Board of Commissioners of Upper Moreland Township:

The undersigned hereby makes application for approval of a plan type as indicated below, under the provisions of the Code of Upper Moreland Township, Chapter 300, *Subdivision and Land Development,* and any supplements and amendments thereto.
Furthermore, the applicant hereby waives the requirement under Act 247, as amended, that the Subdivision and/or Land Development plan be acted upon within ninety (90) days from date of submission.

Sharon Mallon
Signature of Applicant

Sharon Mallon
Signature of Land Owner

Title of Plan Submitted: Lot Consolidation Plan

A. Plan Type:

X Minor Subdivision
___Preliminary Major Subdivision
___Final Major Subdivision
___Preliminary Major SD&LD
___Minor Land Development
___Preliminary Major Land Development
___Final Major Land Development
___Final Major SD&LD

B. Plan Identification

Plan Dated: August 4, 2022 Engineer: LVL Engineering Group

Plan Proposes: Brief narrative of the proposed activity. Commercial/Industrial/Institutional applications to include building square footage and specific uses; Residential applications to include number of lots and amount of dwelling unit types:

Proposed is a 2 story dwelling with an area of 1,720 square feet. Along with a 1,191 square foot driveway.

C. Property Identification:
Address/Location New Street, Upper Moreland Township, Montgomery County, PA

(Continued on next page)

TPN: 59-00-13183-00-6, 59-00-13183-00-9 Block #_____ Unit #_____

D. Applicant Identification:

Applicant: Sharon Antoinette Mallozzi

Address: 2902 Pickertown Road, Warrington, PA 18976

Phone: (215) 343-1187 Email (required): sharonmallozzi@gmail.com

Land Owner: Sharon Antoinette Mallozzi

Address: 2902 Pickertown Road, Warrington, PA, 18976

Phone: (215) 343-1187 Email (required): sharonmallozzi@gmail.com

Engineer: LVL Engineering Group

Address: 1456 Ferry Road, Bldg 500, Doylestown, PA 18901

Phone: 215-345-9400 Email (required): kreiss@lvlengineers.com

Attorney: Howard Brown, Howard M. Brown, LLC

Address: 16 North Franklin Street, Suite 300A, Doylestown, PA, 18901

Phone: 215-345-8405 Email (required) howard@howardbrownlaw.com

---

Office Use Only

Fees received from applicant:

Application fee: _____
Review Escrow: _____
Total: _____

Fees acknowledged and application accepted as complete:

_____ _____

Staff signature Date

TOWNSHIP OF UPPER MORELAND
117 Park Avenue
Willow Grove, Montgomery County, Pennsylvania 19090-3215

Dan Fannon, Chairman
Peter O'Halloran, Vice Chairman
Anthony Corbett, Member
Louise D'Alessandro, Member
Raymond Fox, Member

Scot Semisch, Solicitor
Paul E. Purtell, Officer
Elda Maggeo, Secretary

DATE MAILED: July 29, 2022

Prestige Property Partners
1126 Horsham Road
Maple Glen, PA 19002

RE: 0 New Street
Willow Grove, PA 19090

Dear Sir or Madam:

You are hereby notified that your petition before the Zoning Hearing Board, Public Hearing **#22-26** has been granted by decision rendered on **July 28, 2022**

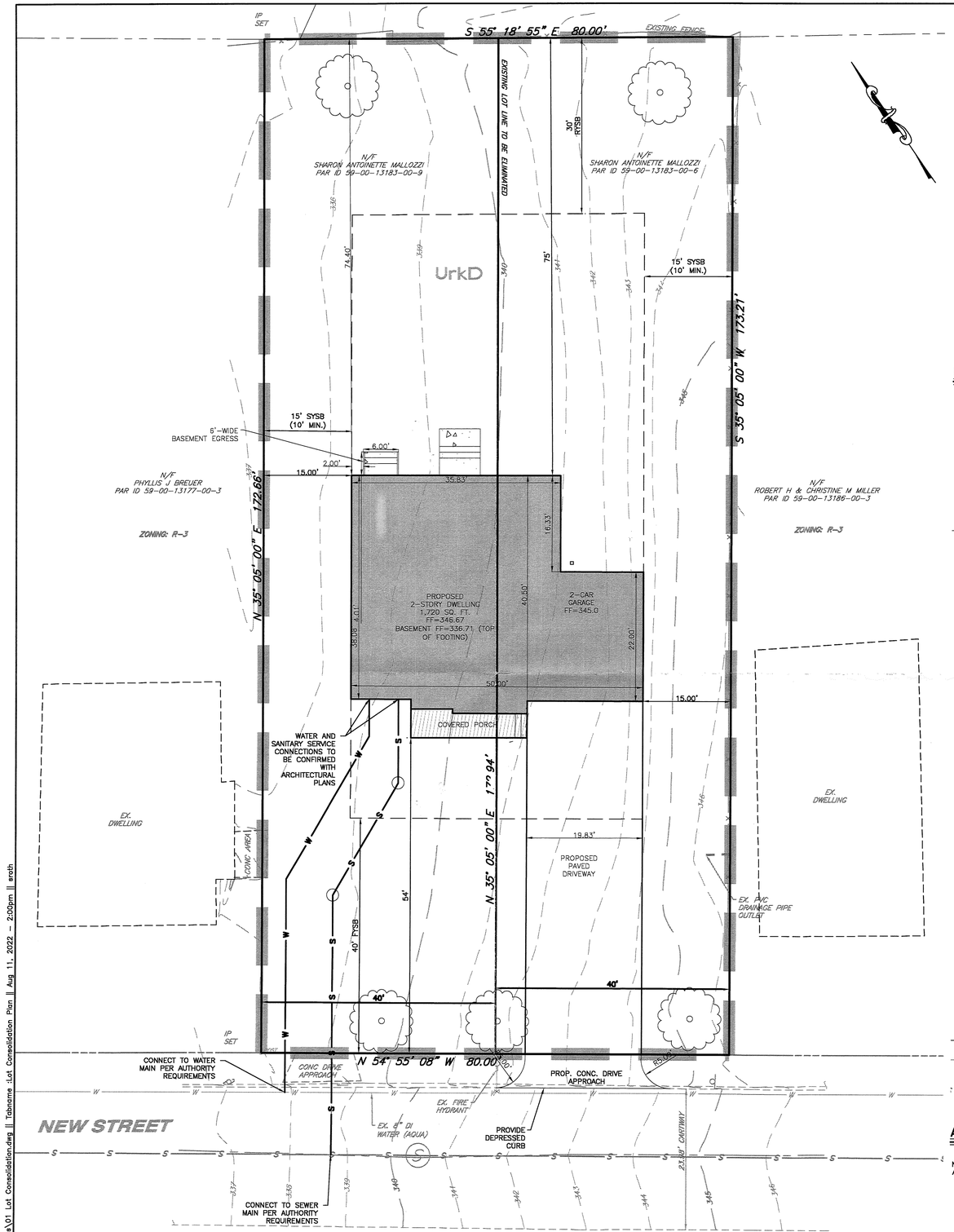
If your application was denied, or approved over opposition at the hearing, then you will receive a full written Opinion within 45 days of the above decision date. Please be advised that there is a 30-day appeal period from the date of mailing of the decision or written Opinion in which the decision of the Board may be appealed.

All material representations made by the applicant on the record at the hearing shall be treated as conditions of the grant and be binding on the applicant. Material representations include, but are not limited to, lighting, size of buildings, construction material and grading. During any subsequent land development/subdivision process, the Board of Commissioners may require or allow changes to these representations.

In the case of an approval, if you wish to apply for a building permit or get a Use Registration Permit within this 30-day appeal period, you would be required to sign a Release form, releasing the Township from any liability.

Board Signatures:

	VOTE	NO CONDITIONS: _____ CONDITIONS: _____
Dan Fannon, Chairman	Aye: ✓ Nay:	
Peter O'Halloran, Vice Chairman	Aye: ✓ Nay:	
Anthony Corbett, Member	Aye: ✓ Nay:	
Louise D'Alessandro, Member	Aye: ✓ Nay:	
Raymond Fox, Jr., Alternate	Aye: X Nay:	



SITE AND ZONING DATA:

OWNER: SHARON ANTOINETTE MALLOZZI
2902 PICKERTOWN ROAD
WARRINGTON, PA 18976

TAX MAP PARCELS: 59-00-13183-00-6, 59-00-13183-00-9
TOTAL TRACT ACREAGE: 0.32 AC TOTAL

ZONING DISTRICT: R-3 RESIDENCE DISTRICT

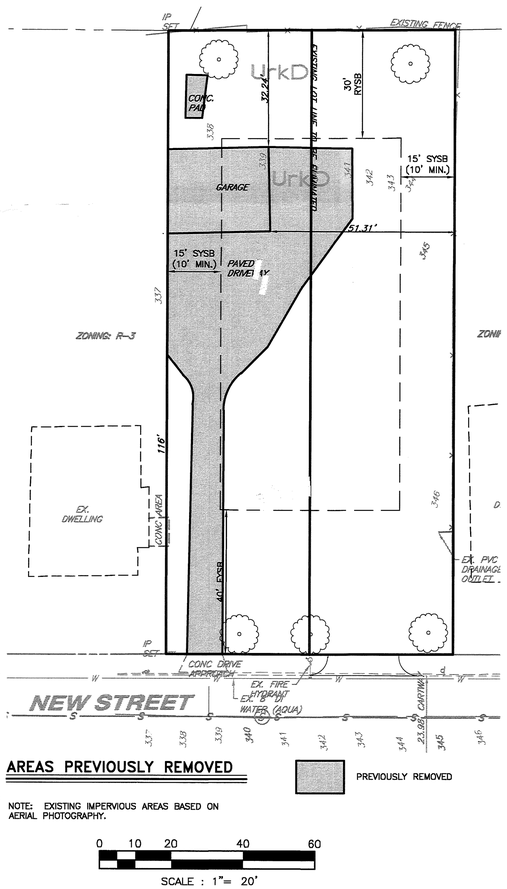
	REQUIRED	EXISTING	PROPOSED
MIN. LOT AREA:	14,000 S.F.	13,835 S.F.	13,835 S.F.
MIN. LOT WIDTH:	80 FT.	80 FT.	80 FT.
MIN. YARD SETBACKS			
FRONT (FYSB):	40 FT.	116.41 FT.	54 FT.
SIDE (SYSB):	15 FT.	0 FT.	15 FT.
SIDE (AGGREGATE):	30 FT.	51.31'	30 FT.
REAR (RSYB):	40 FT.	32.24 FT.	74.39 FT.
BUILDING HEIGHT:	35 FT.	UNKNOWN	<35 FT.
MAX. BUILDING COVERAGE:	30%	4.82%	13.07%
MAX. IMPERVIOUS COVERAGE:	40%	3,376 S.F. (24.40%)	3,074 S.F. (22.22%)

ZONING VARIANCE RECEIVED

CH. 350, ARTICLE VI, SECTION 350-31: A ZONING VARIANCE WAS RECEIVED AT THE JULY 28, 2022 ZONING HEARING.

IMPERVIOUS COVERAGE

LOT AREA 14,094	EXISTING		REMOVED		PROPOSED		TOTAL	
USE	AREA (S.F.)	%	AREA (S.F.)	%	AREA (S.F.)	%	AREA (S.F.)	%
BUILDING	667	4.82	667	4.82	1,809	13.07	1,809	13.07
SIDEWALK & PATIO	69	0.49	69	0.49	74	0.54	74	0.54
DRIVEWAY	2,640	19.08	2,640	19.08	1,191	8.61	1,191	8.61
TOTAL	3,376	24.4	3,376	24.4	3,074	22.22	3,074	22.22



AREAS PREVIOUSLY REMOVED

NOTE: EXISTING IMPERVIOUS AREAS BASED ON AERIAL PHOTOGRAPHY.

PREVIOUSLY REMOVED

0 10 20 40 60
SCALE : 1"= 20'

GENERAL NOTES:

1.) PROPERTY INFORMATION BASED ON A SURVEY PERFORMED BY BOUCHER & JAMES INC ON APRIL 2, 2022.

2.) HORIZONTAL DATUM FOR THIS SURVEY IS BASED ON NAD 83 OBTAINED FROM GPS OBSERVATIONS.

3.) VERTICAL DATUM FOR THIS SURVEY IS BASED ON NAVD 88 OBTAINED BY GPS OBSERVATIONS.

4.) TOPOGRAPHIC FEATURES ARE BASED ON A SURVEY PERFORMED BY BOUCHER AND JAMES, INC. COMPLETED ON APRIL 2, 2022 AND REPRESENTS EXISTING CONDITIONS AT THAT TIME.

5.) BOUCHER & JAMES, INC. HAS NOT PERFORMED A VERIFICATION SURVEY TO DETERMINE THE EXISTENCE OF ANY UNDERGROUND UTILITY LINES WHICH MAY NOT HAVE BEEN VISIBLE AT THE TIME OF THE SURVEY.

6.) ANYONE USING THIS DRAWING FOR CONSTRUCTION IS ADVISED TO CALL 1-800-242-1776 PRIOR TO EXCAVATION IN ACCORDANCE WITH PA ACT NO. 287 OF 1974, AS AMENDED.

7.) THE ENTIRE SITE IS IN ZONE X, AREA OF MINIMAL FLOOD HAZARD. ZONE DESIGNATION BASED ON FIRM PANEL 313 OF 451, MAP NUMBER 42091c0313g, EFFECTIVE DATE MARCH 2, 2016. NO FLOODPLAIN OR FLOODWAY BOUNDARIES ARE PRESENT ON THE SITE.

8.) NO WETLANDS ARE PRESENT ON THE SITE OR WITHIN 200' OF THE SITE PER US FISH AND WILDLIFE SERVICES NATIONAL WETLAND INVENTORY MAPPING.

9.) THE SITE WILL BE SERVED VIA LATERAL CONNECTION TO EXISTING PUBLIC SANITARY SEWER AND DOMESTIC WATER MAINS.

10.) THE INTENT OF THIS PLAN IS TO CONSOLIDATE TWO TAX MAP PARCELS 59-00-13183-00-6 AND 59-00-13183-00-9 INTO ONE LOT.

11.) DOWNSPOUTS SHALL DISCHARGE TO VEGETATED SURFACES.

CHAPTER 93 DESIGNATION

PROJECT SITE'S RECEIVING WATERWAY IS ROUND MEADOW CREEK, CHAPTER 93 DESIGNATION TSF (TROUT STOCKING)

SURVEYOR'S CERTIFICATION

I, _____, A REGISTERED SURVEYOR OF THE COMMONWEALTH OF PENNSYLVANIA, DO HEREBY CERTIFY THAT THE PLAN, PREPARED FROM A FIELD SURVEY IN APRIL 2022, CORRECTLY REPRESENTS THE PROPERTY BOUNDARY OF THE PROPOSED SUBDIVISION OR LAND DEVELOPMENT.

_____ REGISTERED SURVEYOR'S SIGNATURE

_____ DATE

ENGINEER'S CERTIFICATION

I, KRIS J. REISS, PE, A REGISTERED PROFESSIONAL ENGINEER IN THE COMMONWEALTH OF PENNSYLVANIA, DO HEREBY CERTIFY THAT THE PLANS AND SUPPORTING DOCUMENTATION ACCOMPANYING THIS APPLICATION, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

_____ _____

PLAN PREPARER'S SIGNATURE DATE

CERTIFICATIONS

COMMONWEALTH OF PENNSYLVANIA
SS.
COUNTY OF MONTGOMERY:

ON THE _____ DAY OF ____, 20__, BEFORE ME, THE SUBSCRIBER, A NOTARY PUBLIC OF THE COMMONWEALTH OF PENNSYLVANIA, RESIDING IN _____ COUNTY, PERSONALLY APPEARED _____,

_____,

(OWNERS) _____, KNOWN TO ME (OR SATISFACTORY PROVEN) TO BE THE PERSON(S) WHOSE NAME(S) (IS/ARE) SUBSCRIBED BELOW, AND ACKNOWLEDGE THAT (HE/SHE/THEY) (IS/ARE) THE REGISTERED OWNER/OWNERS) OF THE DESIGNATED LAND; THAT ALL NECESSARY APPROVAL OF THE PLAN HAS BEEN OBTAINED AND IS ENDORSED THEREON, AND THAT (HE/SHE/THEY) DESIRE THAT THE FOREGOING PLAN BE RECORDED ACCORDING TO LAW.

WITNESS MY HAND AND NOTARIAL SEAL THE DAY AND YEAR AFORESAID.

_____ _____

(SIGNATURE OF OWNER) NOTARY PUBLIC
MY COMMISSION EXPIRES: _____

_____

(SIGNATURE OF OWNER)

COMMONWEALTH OF PENNSYLVANIA
SS.
COUNTY OF MONTGOMERY:

ON THE _____ DAY OF ____, 20__, BEFORE ME, THE SUBSCRIBER, A NOTARY PUBLIC OF THE COMMONWEALTH OF PENNSYLVANIA, RESIDING IN _____ COUNTY, PERSONALLY APPEARED _____, WHO ACKNOWLEDGED (HIMSELF/HERSELF) TO BE THE _____,

(PRESIDENT OR SECRETARY) (NAME OF CORPORATION) A CORPORATION, AND THAT AS SUCH, BEING AUTHORIZED TO DO SO, (HE/SHE) EXECUTED THE FOREGOING PLAN BY SIGNING THAT THE SAID CORPORATION IS THE REGISTERED OWNER OF THE DESIGNATED LAND, AND ALL NECESSARY APPROVALS OF THE PLAN HAVE BEEN OBTAINED AND ARE ENDORSED THEREON; THAT SAID CORPORATION DESIRES THAT THE FOREGOING PLAN BE RECORDED ACCORDING TO LAW.

WITNESS MY HAND AND NOTARIAL SEAL, THE DAY AND YEAR AFORESAID.

_____ _____

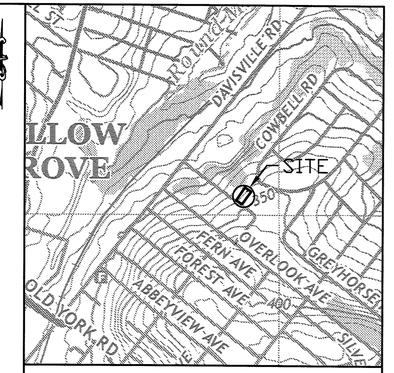
(SIGNATURE OF OFFICER) NOTARY PUBLIC
MY COMMISSION EXPIRES: _____

_____

(TITLE)

(CORPORATE SEAL)

RECORDED IN THE OFFICE OF RECORDER OF DEEDS OF MONTGOMERY COUNTY, NORRISTOWN, PENNSYLVANIA IN PLAN BOOK ____, PAGE ____, ON THE _____ DAY OF _____, 20__.



LOCATION MAP

SCALE: 1"=800'
SOURCE: HATBORO USGS QUAD MAP, 2019

LEGEND

- ADJOINER LINE
- AC — EXISTING AIR CONDITIONER
- EXISTING BOUNDARY
- EXISTING BUILDINGS
- 288 — EXISTING CONTOUR
- EXISTING DRIVEWAY
- EXISTING EDGE OF PAVEMENT
- EXISTING FENCE
- EM — EXISTING ELECTRIC METER
- EXISTING IRON PIN/PIPE
- EXISTING CONCRETE MONUMENT
- MB — EXISTING MAILBOX
- EXISTING LEGAL RIGHT-OF-WAY
- S — EXISTING SANITARY SEWER AND MANHOLE
- 290.3 — EXISTING SPOT ELEVATIONS
- EXISTING UTILITY POLE
- EXISTING WELL
- SV — EXISTING SANITARY SEWER VENT
- EXISTING DECIDUOUS TREE
- EXISTING TREELINE/BRUSH AREA
- PROPOSED BUILDING
- PROPOSED DRIVEWAY
- S — S — S — PROPOSED SANITARY SEWER LATERAL
- W — W — W — PROPOSED DOMESTIC WATER LATERAL

MONTGOMERY COUNTY PLANNING COMMISSION REVIEW

MCPC NO. _____

PROCESSED AND REVIEWED. REPORT PREPARED BY MONTGOMERY COUNTY PLANNING COMMISSION IN ACCORDANCE WITH THE MUNICIPALITIES PLANNING CODE.

CERTIFIED THIS DATE, _____, 2022.

TOWNSHIP COMMISSIONERS' REVIEW

APPROVAL NOTATION BY THE TOWNSHIP SHALL BE AS FOLLOWS:

APPROVED BY THE BOARD OF COMMISSIONS OF UPPER MORELAND TOWNSHIP THIS _____ DAY OF _____, 20__.

_____,
PRESIDENT

ATTEST:

_____,
TOWNSHIP SECRETARY

_____,
TOWNSHIP ENGINEER

RECEIVED
AUG 23 2022
UPPER MORELAND CODE ENFORCEMENT

Written dimensions shall have priority over scaled dimensions. All dimensions, elevations, locations, and conditions, shall be verified by the Contractor prior to construction, and the Owner and Boucher & James, Inc., shall be notified of any discrepancies with the information shown on drawings.
Only those plans incorporating the raised or red ink professional seal shall be considered official and relied upon. All ideas, designs and arrangements presented hereon were developed for use on, and in connection with, the specified project being prepared for the Owner. These plans may not be reproduced or altered without the expressed written permission of Boucher & James, Inc.
Information shown on this plan represents professional services expressing ideas and designs developed, owned and copyrighted by Boucher & James, Inc. Reproduction of this plan without written approval of Boucher & James, Inc. is not permitted. Unauthorized reproduction of a copy of this plan for any purpose will be considered a violation of the copyright laws and a theft of corporate assets. Unauthorized alterations of the plan will be considered a violation of the professional code of ethics. Any violation will be prosecuted to the fullest extent of current statutes.

KNOW WHAT'S BELOW CALL BEFORE YOU DIG!
PENNSYLVANIA ACT 287 OF 1974 (AS AMENDED) REQUIRES 3 WORKING DAYS NOTICE FOR EXCAVATION PHASE AND TO WORKING DAYS IF DESIGN STAGE - STOP CALL!
PENNSYLVANIA ONE CALL SYSTEM, INC.
1-800 242-1776 or 811
PA ONE-CALL SERIAL No.
20221041834
04/14/2022

REVISIONS :

DATE	DESCRIPTION	DATE	DESCRIPTION

PROJECT :
MALLOZZI RESIDENCE-NEW STREET
UPPER MORELAND TOWNSHIP
MONTGOMERY COUNTY, PA

APPLICANT :
PRESTIGE PROPERTY PARTNERS, INC.
1126 HORSHAM ROAD
MAPLE GLEN, PA 19002

0 5 10 20 30
SCALE : 1"= 10'

JOB NO.: 228853
DRAWN BY: SMR
CHECKED BY: KJR
SCALE: 1" = 10'
PLAN STATUS: FINAL

TITLE : LOT CONSOLIDATION PLAN

Boucher & James, Inc.
CONSULTING ENGINEERS
DOYLESTOWN ◆ BETHLEHEM ◆ STROUDSBURG
REGIONAL OFFICE: 559 MAIN STREET, SUITE 230 BETHLEHEM, PA 18018
VOICE: (610) 419-9407 FAX: (610) 419-9408
www.bjengineers.com

PROJECT NAME : MALLOZZI RESIDENCE-NEW STREET

SHEET 1 OF 1

DATE: AUGUST 4, 2022

S:\2022\228853\Dwg\Final Dwgs\01 Lot Consolidation.dwg || Tabname :Lot Consolidation Plan || Aug 11, 2022 - 2:00pm || aroth

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

September 13, 2022

File No. 22-08074

Paul E. Purtell, Code Enforcement Director
Upper Moreland Township
117 Park Avenue
Willow Grove, PA19090-3215

Reference: New Street – Lot Consolidation Plan
TMP #59-00-13183-00-6 & TMP #59-00-13183-00-9

Dear Paul:

Pursuant to your request, Gilmore & Associates, Inc. has performed a review of the lot consolidation plan for the above-referenced project. Upon review of the plans, we offer the following comments:

I. Submission

A. Lot Consolidation Plan for Mallozzi Residence – New Street, prepared by Boucher & James, Inc. consisting of one sheet dated August 4, 2022.

II. General Information

The subject properties, TMP #59-00-13183-00-6 & TMP #59-00-13183-00-9, are located along New Street within the R3 - Residential Zoning District. The plan proposes to consolidate the two parcels in order to construct a new single-family dwelling on the property. After consolidation, the lot will total 13,835 SF where a minimum 14,000 SF is required by the Zoning Ordinance. As such, the Applicant has obtained the necessary Variance from the Upper Moreland Township Zoning Hearing Board as outlined in Order No. 22-26. The proposed dwelling will be connected to public water & sewer.

III. Review Comments

A. Subdivision and Land Development Ordinance

We have identified the following issues with the plan in regard to the requirements and provisions of the current Subdivision & Land Development (SALDO) Ordinance.

1. Due to the fact that this application is a Minor Subdivision plan that proposes only a lot line change and no new buildings, we recommend that the Applicant request waivers from the requirements of the following sections:

   a. §300-54 – Regarding general standards for land developments and subdivisions as this plan is only a lot line change.

   b. §300-55 – Regarding Preliminary Plan requirements as we recommend that the application be considered as a combined Preliminary / Final application.

2. §300-18 – Sidewalks are required to be installed along all existing roads that abut a subdivision. The plans do not currently propose sidewalk along New Street and the Applicant would need to request a waiver from this section. We note while sidewalk does not exist along the property directly adjacent, there is sidewalk approximately 75' from the subject property in front of 59 New Street.

3. §300-15.B(1)(b) – The minimum cartway width along New Street per this section of the Ordinance is 30-feet and the plan depicts the existing cartway along the frontage of the subject property to be 24' +/-. As such, a waiver would be required to not provide widening to meet the minimum half-width cartway. Additionally, the existing right-of-way width along New Street should be labeled on the plan to confirm the 50' (25' half width) requirement is being met.

4. §300-53.C – A legal description of the consolidated lot shall be submitted to the Township for review prior to recording of the plan.

5. §300-53.C(3)(j) – The plan should be revised to show the proposed location of new property markers. A written certification letter from a professional land surveyor prior to the recording of the plan will also be required.

6. The proposed improvements on the plan do not contain sufficient detail to be approved as a "Plot Plan" for construction of the new dwelling. As such, we recommend a note be added to the plan stating that an in individual lot grading plan shall be submitted to the Township for review and approval prior to issuance of a building permit. Said plan shall contain grading, drainage, construction details, and erosion and sediment controls. While we note that the plan proposes a reduction in impervious surface and is therefore exempt from the requirements and provision of the Stormwater Management Ordinance, the proposed grading plan shall ensure that runoff is not directed toward the dwelling on the adjacent property.

If you have any questions regarding the above, please contact this office.

Sincerely,

James J. Hersh, P.E.
Senior Project Manager
Gilmore & Associates, Inc.

JJH/sl

cc: Matthew Candland, Township Manager
Sean Kilkenny, Esq., Township Solicitor
Sharon Antionette Mallozzi, Applicant
Kris Reiss, LVL Engineers
Jim D'Angelo, Prestige Property Partners, LLC

McCloskey & Faber, P.C.
Landscape Architecture • Land Planning • Graphic Design

September 12, 2022

Mr. Paul E. Purtell
Director of Planning, Zoning & Inspections
Upper Moreland Township
117 Park Avenue
Willow Grove, PA 19090

Reference: First Landscape Plan Review for **New Street – Lot Consolidation Plan,** Upper Moreland Township, Montgomery County, PA, M&F No. 215

Dear Mr. Purtell:

We are in receipt of an application and one-sheet submission dated August 4, 2022 prepared by Boucher & James, Inc. The plans were received by this office on August 23, 2022. Existing conditions were observed using available online aerial photographs and street views. The subject properties are located within the R-3 Residence District.

The Applicant is proposing to consolidate two parcels and construct a new residential dwelling.

We offer the following comments relative to landscaping requirements:

1) Since the proposed subdivision involves two or less dwelling units, no landscape plan is required. (Section 300-41. A.)

2) "Street Tree" plantings requirements apply (Section 300-43 A.).

   a) A minimum of two street trees are required based on the length of street frontage. Three trees are depicted on the plan. However, it is unclear whether these trees are existing trees to remain or proposed new trees. If existing and intended to remain, the canopy of these trees should be accurately depicted and these trees are to be adequately protected during construction. If new proposed trees, species and caliper should be provided, in addition to a tree installation detail.

3) The requirements for "Preservation and Protection of Existing Trees" apply (Section 300-44).

   a) We believe this could be addressed during the Building Permit stage, as may be determined applicable at that time. It should be noted that a Tree Removal Permit is also to be submitted at the Building Permit stage. (Section 300-44. D.)

4) The standards for "Replacing Trees Destroyed by Development" apply (Section 300-45).

a) If it is determined that the existing trees along New Street are removed due to potential future anticipated disturbance, we recommend these trees be replaced as street trees using species appropriate to site conditions, without the additional requirement for replacement. A waiver from the requirement to install replacement trees would be appropriate in this situation.

We look to the Applicant to indicate location, species, and size of the required street trees (and replacement trees, as may be applicable) on the Building Permit Plan at the time of construction, to be forwarded to this office for review.

We trust that this landscape plan review letter responds to your request and satisfactorily addresses the landscape ordinance requirements that are apparent to us at this time. If you or the Township have any questions, or require clarification, please contact me.

Very truly yours,

Kimberli J. Flanders, R.L.A.
Assistant to Township Landscape Architect

cc: Matt Candland, Township Manager, Upper Moreland Township (email)
David Elsier – Upper Moreland Township (email)
Jim Hersh, P.E. – Township Engineer (email)
Sean Kilkenny, Esq. and Alex Baumler – Township Solicitor (email)
LVL Engineering Group, Project Engineer (email)
Sharon Antoinette Mallozzi, Applicant (email)
James R. Faber, ASLA, Township Landscape Architect (email)

September 9, 2022

Mr. Paul Purtell
Director of Code Enforcement
Upper Moreland Township
117 Park Avenue
Willow Grove, PA 19090

RE: **Traffic Review #1 – Lot Consolidation/Minor Subdivision Plan**
New Street
Upper Moreland Township, Montgomery County, PA
McMahon Project No. 822915.11

Dear Paul:

Per the request of the Township, McMahon Associates, Inc., a Bowman company (McMahon) has prepared this letter that summarizes our initial traffic engineering review of the proposed development to be located along the northern side of New Street to the east of Davisville Road (S.R. 2042) in Upper Moreland Township, Montgomery County, PA. Based on our review of the plan submitted for review, the development will consist of consolidating Parcel #59-00-13183-00-6 and Parcel #59-00-13183-00-9 into one lot. A single-family home is proposed on this new lot. Access to the proposed lot will be provided via a full-movement driveway along New Street.

The following document was reviewed and/or referenced in preparation of our traffic review:

1. Lot Consolidation Plan – Mallozzi Residence (New Street), prepared by Boucher & James, Inc., dated August 4, 2022.

Based on our review of the document listed above, McMahon offers the following comments for consideration by the Township and action by the applicant:

1. Sight distance measurements should be depicted on the plan for the proposed driveway along New Street as required in **Section 295-15.C** of the **Subdivision and Land Development Ordinance**.

2. The ultimate right-of-way lines along the New Street site frontage should be labeled on the plan and be in accordance with **Section 300-15.B(1)(b)** of the **Subdivision and Land Development Ordinance.**

3. According to **Section 300-15.B(1)(b)** of the **Subdivision and Land Development Ordinance,** New Street should have a minimum cartway width of 30 feet. The plan currently shows an approximate 24-foot cartway width along the New Street site frontage, thereby not satisfying the ordinance requirement.

4. A note should be added to the plan stating the area between the existing right-of-way line and the ultimate right-of-way line shall be offered for dedication to the authority having jurisdiction over

the road as required in **Section 300-15.C(3)** of the **Subdivision and Land Development Ordinance**.

5. According to **Section 300-18** of the **Subdivision and Land Development Ordinance,** sidewalk should be provided along all streets. The plan currently does not show any sidewalk along the New Street site frontage, thereby not satisfying the ordinance requirement.

6. The proposed development will be subject to the Township's Transportation Impact Fee of $1,904 per "new" afternoon peak hour trip in accordance with the Township's *Transportation Impact Fee Ordinance*. Based on Land Use Code 210 (Single-Family Detached Housing) provided in the Institute of Transportation Engineers publication, *Trip Generation, 11th Edition,* the proposed single-family home will generate one "new" trip during the weekday afternoon peak hour, resulting in a transportation impact fee of $1,904.

7. A response letter must be provided with the resubmission detailing how each comment below has been addressed, and where each can be found in the resubmission materials (i.e., page number(s)) to assist in the re-review process. Additional comments may follow upon review of any resubmitted materials during the subdivision process.

We trust that this review letter responds to your request and satisfactorily addresses the traffic issues that are related to the proposed development apparent to us at this time. If you or the Township have any questions, or require clarification, please contact me.

Sincerely,

Chad Dixson, AICP, PP
Senior Project Manager

CED/BMJ

cc: Matthew Candland, Upper Moreland Township Manager
Jim Hersh, P.E., Gilmore & Associates

I:\eng\UPPERMO1\822915 - New Street\Project Management\Submissions\2022-08-23\Review\2022-09-09 Review Letter #1.docx

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PLANNING COMMISSION

MONTGOMERY COUNTY COURTHOUSE • PO BOX 311
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WWW.MONTCOPA.ORG

SCOTT FRANCE, AICP
EXECUTIVE DIRECTOR

September 30, 2022

Mr. Paul Purtell, Director, Planning, Zoning & Inspections
Upper Moreland Township
117 Park Avenue
Willow Grove, Pennsylvania 19090-3215

Re: MCPC # 22-0225-001
Plan Name: New Street - Lot Consolidation
(2 lots comprising approximately 0.32 acres)
Situate: New Street (Davisville Road (W) and Overlook Avenue (S))
Upper Moreland Township

Dear Mr. Purtell:

We have reviewed the above-referenced subdivision and land development in accordance with Section 502 of Act 247, "The Pennsylvania Municipalities Planning Code," as you requested on August 23, 2022. We forward this letter as a report of our review.

BACKGROUND

The applicant, Sharon Mallozzi, is proposing a lot consolidation of two lots with the intent to develop a 1,720 square foot 2-story dwelling and two-car garage. The proposal would consolidate parcel no. 590013183006 and parcel no. 590013183009, both of which are currently undeveloped lots. The property is located in the R-3 Residential Zoning District and is served by public water and sewer.

COMPREHENSIVE PLAN COMPLIANCE

A. *MONTCO 2040* – The proposal is generally consistent with *MONTCO 2040: A Shared Vision*, which designates the area as "Suburban Residential Area" future land use category. Suburban Residential Areas are residential areas that often have extensive landscaping on individual properties. These areas will have a variety of housing types, with single-family detached homes as the most prominent type. Residential development should match the character and type of housing found in the immediate neighborhood.

B. *Upper Moreland 2040* Comprehensive Plan – The property is located in the Suburban Residential future land use area. The comprehensive plan states that this land use category is predominantly comprised of single-family homes, and is generally well-served by sidewalks.

RECOMMENDATION

The lot line adjustment would satisfy the lot dimension requirements of the R-3 Zoning District, which requires a "lot area of not less than 14,000 square feet" and a maximum lot width of 80 feet. The two existing lots do not meet the required lot size of the R-3 Zoning District. The lot line adjustment would result in a lot that meets the dimensional requirements of the R-3 District.

The Montgomery County Planning Commission (MCPC) generally supports the applicant's proposal, however, in the course of our review we have identified the following issue that the applicant and township may wish to consider prior to final plan approval. Our comments are as follows:

REVIEW COMMENTS

LAND DEVELOPMENT

A. Sidewalks. We are generally supportive of the proposed lot line adjustment, but encourage the applicant and township to consider the importance of sidewalks in the residential districts before any development of the consolidated lot. We believe that land developments are opportunities to contribute to the pedestrian network.

   With the exception of this section of New Street, the majority of the streets in the surrounding neighborhood are well-connected for pedestrians with sidewalks. We support the continued planning for improved pedestrian connectivity in the Willow Grove, and recommend the applicant install sidewalks along the property frontage of New Street, which will contribute to the sidewalk network as it develops over time.

CONCLUSION

We wish to reiterate that MCPC generally supports the applicant's proposal but we believe that our suggested revisions will better achieve Upper Moreland's objectives for residential development.

Please note that the review comments and recommendations contained in this report are advisory to the township and final disposition for the approval of any proposal will be made by the township.

Should the governing body approve a final plat of this proposal, the applicant must present the plan to our office for seal and signature prior to recording with the Recorder of Deeds office. A paper copy bearing the municipal seal and signature of approval must be supplied for our files.

Please print the assigned MCPC number (22-0225-001) on any plans submitted for final recording.

Sincerely,

Claire Warner, Senior Community Planner
cwarner@montcopa.org – 610-278-3755

c: Sharon Mallozzi, Applicant
LVL Engineering Group, Applicant's Engineer
Howard Brown, Applicant's Representative
Gerald Foley, Chair, Township Advisory Planning Agency
Matt Candland, Manager, Upper Moreland Township

Attachment A: Aerial Image of Site
Attachment B: Reduced Copy of Applicant's Proposed Site Plan

ATTACHMENTS A & B

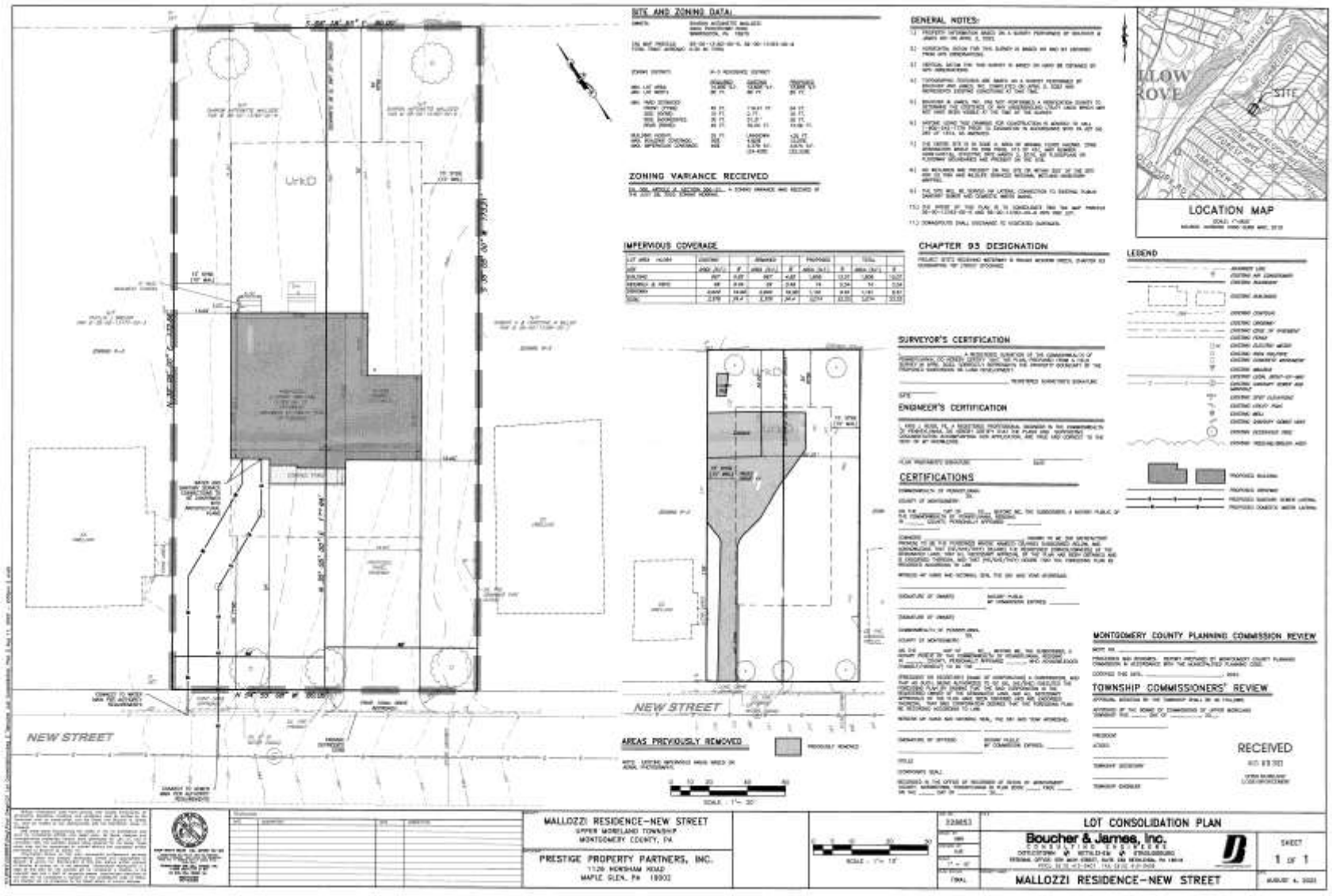


New Street Lot Consolidation
MCPC#220225001

Montgomery County Planning Commission

0 50 100 200 Feet

N


SITE AND ZONING DATA:
GENERAL NOTES:
LOCATION MAP
SITE
ZONING VARIANCE RECEIVED
IMPERVIOUS COVERAGE
CHAPTER 93 DESIGNATION
LEGEND
SURVEYOR'S CERTIFICATION
ENGINEER'S CERTIFICATION
CERTIFICATIONS
MONTGOMERY COUNTY PLANNING COMMISSION REVIEW
TOWNSHIP COMMISSIONERS' REVIEW
RECEIVED
AREAS PREVIOUSLY REMOVED
NEW STREET
NEW STREET
MALLOZZI RESIDENCE-NEW STREET
UPPER MORELAND TOWNSHIP
MONTGOMERY COUNTY, PA
PRESTIGE PROPERTY PARTNERS, INC.
1126 HORSHAM ROAD
MAPLE GLEN, PA 19002
LOT CONSOLIDATION PLAN
Boucher & James, Inc.
CONSULTING ENGINEERS
MALLOZZI RESIDENCE-NEW STREET
SHEET
1 OF 1

TOWNSHIP of UPPER MORELAND

Montgomery County, Pennsylvania

117 Park Avenue, Willow Grove, PA 19090-3215

Telephone (215) 659-3100 / Fax (215) 659-7363

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Township Solicitor

Upper Moreland Township Board of Commissioners
Community Development Committee Meeting
September 19, 2022

Agenda Item: **Redevelopment Sketch Plan for the Executive Mews Site**

Recommended Action: No recommendation at this time. BET Investments, the new owner, would like to present their development concepts and receive the CDC's feedback.

Background/Analysis: BET Investments recently purchased the Executive Mews property. This property has declined to a certain extent and presently does have a number of vacancies.

BET Investments would like to demolish the existing office buildings and construct several new multi-family housing units totaling between 200 and 300 units.

BET Investments apparently understands that this type of development would likely require variances and conditional use approvals depending upon the final plan submitted.

Fiscal Impact/Source: Unknown at this time

Alternatives: There are a variety of uses permitted on this property.

Attachments: BET Investments Sketch Plan

CONCEPT PLAN GENERAL NOTES

1. THIS PLAN REFERENCES DOCUMENTS AND INFORMATION BY :

a) ALTA/NSPS LAND TITLE SURVEY PREPARED BY BLUE MARSH ASSOCIATES, INC.
#2300 COMPUTER AVENUE & #2309 & 2317 BLAIR MILL ROAD
BLOCK #46C, UNITS #6, 8, & 14
UPPER MORELAND TOWNSHIP, MONTGOMERY COUNTY, PA
DATED 2-16-2022, REVISED 3-1-2022
PROJECT NO. 21-A-495

b) HUMPHREYS & PARTNERS ARCHITECTS, L.P.
BET INVESTMENT
COMPUTER ROAD
BLAIR, LLC
HPA#22109
5-5-2022

2. THIS CONCEPT WAS PREPARED STRICTLY BASED UPON INFORMATION IDENTIFIED ABOVE.

3. THE CONCEPT REPRESENTED HEREIN IDENTIFIES A DESIGN CONCEPT RESULTING FROM LAYOUT PREFERENCES IDENTIFIED BY THE OWNER COUPLED WITH A PRELIMINARY REVIEW OF ZONING AND LAND DEVELOPMENT REQUIREMENTS AND ISSUES. THE FEASIBILITY WITH RESPECT TO OBTAINING LOCAL, COUNTY, STATE, AND OTHER APPLICABLE APPROVALS ARE NOT WARRANTED AND CAN ONLY BE ASSESSED AFTER FURTHER EXAMINATION AND VERIFICATION OF SAME REQUIREMENTS AND PROCUREMENT OF JURISDICTIONAL APPROVALS.

4. THIS CONCEPT PLAN IS PREPARED FOR CONCEPTUAL PRESENTATION PURPOSES ONLY AND IS NOT INTENDED FOR UTILIZATION AS A ZONING AND/OR CONSTRUCTION DOCUMENT. THE EXISTING CONDITIONS SHOWN HEREON ARE BASED UPON INFORMATION THAT WAS SUPPLIED TO OUR OFFICE AT THE TIME OF PLAN PREPARATION AND MAY BE SUBJECT TO CHANGE AND MUST BE UPDATED UPON PERFORMANCE OF ADDITIONAL DUE DILIGENCE.

ZONING TABLE

EXISTING ZONING: O-OFFICE & I - LIMITED INDUSTRIAL
PROPOSED ZONING: I - LIMITED INDUSTRIAL
PROPOSED USE: APARTMENT COMPLEX (PERMITTED BY CONDITIONAL USE)

APPLICANT/ OWNER INFORMATION

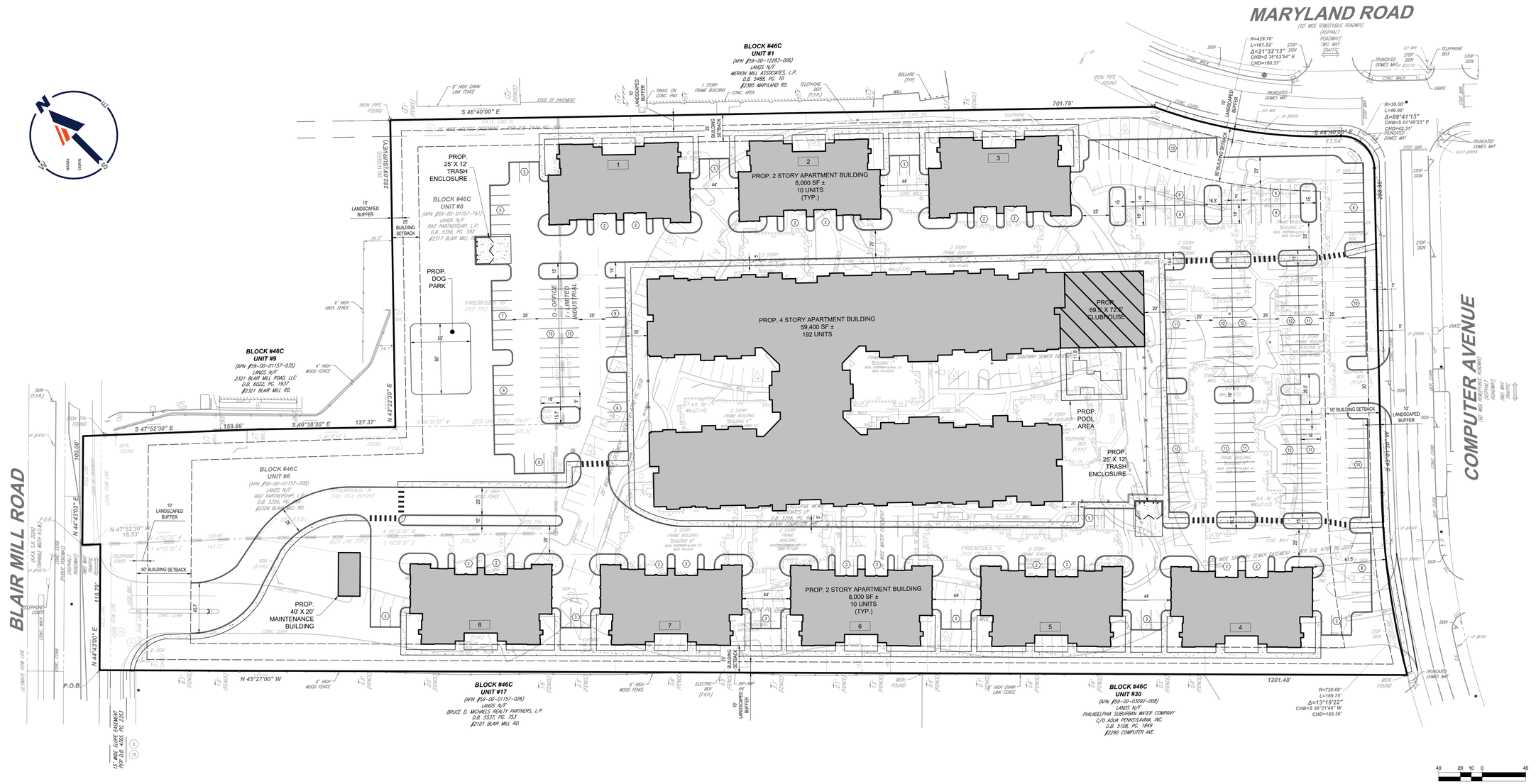
APPLICANT:	BT BLAIR, LLC 200 DRYDEN ROAD, SUITE 200 DRESHER, PA 19025
PROPERTY OWNER:	SAME AS APPLICANT

BULK REQUIREMENTS

ITEM	CODE	REQUIRED	PROPOSED
MIN. GROSS LOT AREA	§ 350-102.V.1.a.	7 AC	12.05 AC (525,274 SF) (AFTER LOT CONSOLIDATION)
MIN. SECONDARY OR EMERGENCY EXITS PROVIDED IN ADDITION TO MAIN ENTRANCE	§ 350-102.V.1.d.	1	1
MAX. RESIDENTIAL UNIT DENSITY PER GROSS LOT ACRE*	§ 350-102.V.1.f.	25 UNIT / AC X 12.05 AC = 301 UNITS)	272 UNITS
MIN. WIDTH OF INTERIOR DRIVEWAYS AND DRIVE AISLES	§ 350-102.V.1.g.	24 FT	25 FT
MAX. PRINCIPAL & ACCESSORY BUILDING COVERAGE OF GROSS LOT AREA	§ 350-102.V.1.h.	35%	24.7% (2.98 AC / 129,660 SF)
MAX. IMPERVIOUS COVERAGE OF GROSS LOT AREA	§ 350-102.V.1.i.	65%	63.5% (7.65 AC / 333,448 SF)
MIN. BUILDING SETBACK**	§ 350-102.V.1.j.	25 FT FROM PROPERTY LINE 50 FT FROM ULTIMATE R.O.W.	25 FT FROM PROPERTY LINE 67.5 FT FROM ULTIMATE R.O.W.
LOCATION OF ACCESSORY STRUCTURES BETWEEN FRONT OF BUILDING AND STREET LINE	§ 350-102.V.1.j.	NOT PERMITTED	MAINTENANCE BUILDING IS LOCATED BETWEEN BUILDING AND BLAIR MILL ROAD (V)
MIN. BUILDING SEPARATION	§ 350-102.V.1.k.	25 FT	44.0 FT
MAX. BUILDING HEIGHT	§ 350-102.V.1.l.	70 FT WITH NOT MORE THAN 4 STORIES OF RESIDENTIAL OCCUPANCY	< 70 FT
MIN. PARKING SPACES REQUIRED	§ 350-102.V.1.n.	1.5 SPACES PER DWELLING UNIT OR 1 SPACE PER BEDROOM, WHICHEVER IS GREATER; 272 UNITS X 1.5 = 408 SPACES; 424 BEDROOMS = 424 SPACES	328 SURFACE PARKING SPACES + 96 GARAGE SPACES = 424 SPACES
MIN. PLANTED BUFFER FOR RECREATIONAL, SERVICE, AND PARKING AREAS	§ 350-102.V.1.q.	10 FT FROM LOT LINE OR R.O.W. LINE	10 FT
MIN. LOT WIDTH AT R.O.W.	§ 350-104.A.	125 FT	217.2 FT
MIN. PARKING SPACE SIZE	§ 350-178.A.1.	9 FT (W) X 18 FT (L)	9 FT (W) X 18 FT (L)
MIN. SWIMMING POOL SEPARATION FROM MAIN STRUCTURE	§ 350-182.	10 FT	11.8 FT.
			(V) = VARIANCE MAY BE REQUIRED

* PER § 350-102.V.3.c., BY CONDITIONAL USE APPROVAL, THE PERMITTED DENSITY MAY INCREASE TO 25 UNITS PER ACRE BY PROVISION OF ON-SITE COMMUNITY RECREATIONAL AND SIMILAR FACILITIES FOR THE RESIDENTS OF THE COMPLEX. DENSITY MAY BE INCREASED TO 30 UNITS PER ACRE BY INCORPORATING ARCHITECTURAL FEATURES SUCH AS DORMERS, PATIOS AND ENHANCED MATERIALS.

** INCLUDES ACCESSORY STRUCTURES EXCEPT GATEHOUSES, GUARDHOUSES, AND TRAILS. PARKING AREAS AND APPROACH DRIVEWAYS ARE PERMITTED IN REQUIRED YARDS EXCEPT AS RESTRICTED BY APPLICABLE PROVISIONS FOR BUFFERS, LANDSCAPED AREAS, IMPERVIOUS COVERAGE, AND OTHER RESTRICTIONS IN INDIVIDUAL ZONING DISTRICTS PER § 350-178.A.1. PER § 350-182. SWIMMING POOLS SHALL COMPLY WITH ALL REAR AND SIDE YARD SETBACK REQUIREMENTS FOR BUILDINGS.



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PROJECT No.:	PAA220090.00
DRAWN BY:	EEL
CHECKED BY:	GJH
DATE:	07/27/2022
CAD I.D.:	PAA220090.00-SKTA-0A

PROJECT:

SKETCH PLAN

FOR

BT BLAIR, LLC

PROPOSED APARTMENTS

2300 COMPUTER AVENUE &
2309 & 2317 BLAIR MILL ROAD
BLOCK 46C, UNITS 6, 8, & 14
UPPER MORELAND TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA, 19090

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Fax: (215) 996-9102
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G.J. HARTMAN
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE No. PE076455
NEW JERSEY LICENSE No. 24GE05343200

SHEET TITLE:

SKETCH PLAN

SHEET NUMBER:

1

ORG. DATE - 07/27/2022

\\BOHLERENG.NET\SHARES\PA-PROJECTS\2022\PAA220090.00\CAD\DRAWINGS\CONCEPTS\SKETCH A\PAA220090.00-SKTA-0A — LAYOUT: 01- SKETCH PLAN
EEL


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3 BUILDING TYPE III - SOUTH ELEVATION

SCALE: 3/32" = 1'-0"



3 BUILDING TYPE III - EAST ELEVATION

SCALE: 3/32" = 1'-0"

SCALE: 3/32"=1'-0" (24"x36" SHEET)

0' 16' 32' 64'

BUILDING TYPE III - ELEVATIONS

A434

WATERMARK

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7-12-2012 CYPRESS, TX HPA# 12258

HUMPHREYS & **PARTNERS** ARCHITECTS L.P.
5339 Alpha Road, Suite 300 Dallas, TX 75240 (972) 701-9636 (972) 701-9639
www.humphreys.com marketing@humphreys.com
DALLAS IRVINE NEW ORLEANS ORLANDO



3 BUILDING TYPE III - NORTH ELEVATION

SCALE: 3/32" = 1'-0"



3 BUILDING TYPE III - WEST ELEVATION

SCALE: 3/32" = 1'-0"

SCALE: 3/32"=1'-0" (24"x36" SHEET)

0' 16' 32' 64'

BUILDING TYPE III - ELEVATIONS

A435

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7-12-2012 CYPRESS, TX HPA# 12258

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DALLAS IRVINE NEW ORLEANS ORLANDO

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

September 13, 2022

File No. 22-08064

Paul E. Purtell, Code Enforcement Director
Upper Moreland Township
117 Park Avenue
Willow Grove, PA19090-3215

Reference: 2300 Computer Avenue & 2309/2317 Blair Mill Road
TMPs # 59-00-01157-03-5, #59-00-01157-00-8, & #59-00-01157-16-1
Sketch Plan Review

Dear Paul:

Pursuant to your request, Gilmore & Associates, Inc. has performed a review of the sketch plan proposal for the above-referenced project. Upon review of the plans, we offer the following comments:

I. Submission

1. Sketch Plan prepared by Bohler Engineering, consisting of one (1) sheet each dated July 27, 2022.

II. Project Description

The subject properties, TMPs #59-00-01157-03-5, #59-00-01157-00-8, & #59-00-01157-16-1 are located at 2300 Computer Avenue, 2309 Blair Mill Road, and 2317 Blair Mill Road. Parcel #59-00-01157-03-5 is located within the I Limited Industrial District, while parcels #59-00-01157-00-8 & #59-00-01157-16-1 are located within the O Office District. Parcel #59-00-01157-03-5 is developed and currently contains a business park with associated paved parking areas. Parcels #59-00-01157-00-8 & #59-00-01157-16-1 are currently undeveloped and primarily contain woods. The site is bounded by the I Limited Industrial District northeast, east, and south; by the C-1 Commercial District to the west, and the O Office District to the northwest.

The Applicant proposes to consolidate the three lots and construct an apartment complex and associated parking areas within all three parcels, which is permitted by conditional use within the I Limited Industrial Zoning District, but is not a permitted use within the O Office District. The plan proposes eight 2-story apartment buildings and one 4-story apartment building, for a total of 272 apartment units, an attached clubhouse and pool area, and a maintenance building. Additional improvements include associated parking areas consisting of 328 parking spaces and 96 garage spaces and sidewalks. The existing driveway from Blair Mill Road and a proposed driveway at Computer Avenue would provide access to and from the site. No public improvements or conceptual stormwater management facilities are portrayed as part of this concept plan.

III. Review Comments

The comments contained in this letter are meant to identify potential concerns associated with the proposal. The comments are not to be misconstrued as requirements, but rather recommendations for the Commissioners' consideration when reviewing the merits of the proposal. A comprehensive review of the Zoning and Subdivision and Land development Ordinances was not performed:

1. The Apartment Complex Use is permittable within the I Limited Industrial District by Conditional Use. As such, we defer to the Board of Commissioners to make the final determination and note that a Conditional Use application will need to be filed should the Applicant decide to move forward with the project.

2. The resulting subject property after consolidation will be split between the I Limited Industrial District and the O Office District. The Township may consider whether a Zoning Map Amendment in conjunction with this application is appropriate to provide I Limited Industrial zoning across the entire property.

3. A maximum residential unit density shall not exceed 18 units per gross acre of lot area, unless increased by conditional use approval per §350-102.V(3)(c). The Applicant is proposing a residential unit density of 22.57 units per gross acre, and we recommend the Applicant discuss with the Board how the required on-site community recreational facilities will be incorporated into the plan.

4. As the plan is currently proposed, no sidewalks/entrances or pathways within the courtyard areas have been provided to the proposed 4-story apartment building. We recommend the Applicant comment on the ability to add these features while remaining below the 65% impervious maximum allowed by Ordinance.

5. No accessory structure shall be located between the front of a building and street line. The Applicant may need a variance for the location of the proposed maintenance building, as it is depicted between the apartment buildings and Blair Mill Road right-of-way. Ultimately, we defer to the Township's Zoning Officer for determination.

6. We defer to McCloskey & Faber regarding Landscape & Buffer requirements.

7. We defer to McMahon Associates regarding internal traffic circulation, adjacent roadway improvements, and the applicability of a traffic impact study for the project.

8. Similar projects in the Township (Petrucci's Station at Willow Grove, Maryland Road apartments) have had a condition that at no point shall the number of bedrooms within the complex exceed the total number of parking spaces available on site. We recommend the Commissioners consider a similar restriction with this project.

9. To ensure that the parking requirement is met, the plan should identify the location of all garage spaces or identify how many garage spaces are to be provided per building.

10. We recommend that the architectural renderings provided in the submission be presented to the Board so that the Commissioners may consider how the project will fit in with the surrounding area and if the renderings meet the dominant/non-dominant material requirements of §350-102.V(2).

11. We recommend that the Applicant thoroughly review the Stormwater Management Ordinance to determine if strict compliance will be proposed on this site. If waivers will be desired, we recommend that a conceptual stormwater analysis be performed so that the magnitude of the requested waivers may be fully understood during the Conditional Use process.

12. We note that a Phase III widening and pedestrian access project is currently being considered for Blair Mill Road along the frontage of this property. As such, any driveway modifications, right-of-way dedication, and frontage improvements along Blair Mill Road will need to coordinated with the future widening plans.

13. The plans should be submitted to the Township Fire Marshal for review with respect to emergency access and fire safety standards.

14. Snow storage areas should be considered in the parking lot design. Due to the amount of available parking spaces per number of units, any snow removal that is stored on site could potentially cause the total number of parking spaces to be inadequate.

15. ADA compliant parking stalls will need to be incorporated into the parking lot design. Additionally, ADA compliant ramps/access ways should be considered between buildings and to nearby public facilities. A crosswalk at the Computer Avenue entrance should be installed as part of this project.

If you have any question regarding the above, please contact this office.

Sincerely,

James J. Hersh, P.E.
Senior Project Manager
Gilmore & Associates, Inc.

JJH/mz/sl

cc: Matthew H. Candland, Township Manager
Sean Kilkenny, Esq., Township Solicitor
BT Blair, LLC
Peter J. Clelland, BET Investments
George Hartman, P.E., Bohler Engineering
Kim Flanders, RLA, McCloskey & Faber
Chad Dixon, P.E., McMahon Associates

McMAHON
a Bowman company

September 8, 2022

Mr. Paul Purtell
Director of Code Enforcement
Upper Moreland Township
117 Park Avenue
Willow Grove, PA 19090

RE: **Traffic Review #1 – Sketch Plan**
Proposed Apartments - Executive Mews
Upper Moreland Township, Montgomery County, PA
McMahon Project No. 822887.11

Dear Paul:

Per the request of the Township, McMahon Associates, Inc. (McMahon) has prepared this letter that summarizes our initial traffic engineering review of the proposed development to be located at 2300 Computer Avenue and 2309/2317 Blair Mill Road (S.R. 2026) in Upper Moreland Township, Montgomery County, PA. Based on our review of the plan submitted for review, the proposed development will consist of demolishing the existing business center and constructing 272 apartment units. Access to the site will be provided via a full-movement driveway along Computer Avenue and a full-movement driveway along Blair Mill Road (S.R. 2026).

The following document was reviewed and/or referenced in preparation of our traffic review:

1. Sketch Plan – BT Blair, LLC, prepared by Bohler Engineering, dated July 27, 2022.

Based on our review of the document listed above, McMahon offers the following comments for consideration by the Township and action by the applicant:

1. A traffic study is required for the proposed development. The applicant's traffic engineer should prepare a traffic impact study (TIS) scoping application for review by the Township and PennDOT if/when the project moves forward to land development.

2. Horsham Township is currently developing roadway widening project plans along Blair Mill Road (S.R. 2026) in the vicinity of the property frontage. It is recommended that the applicant provide the necessary right-of-way for the project along their property frontage and roadway widening, if determined by the Township.

3. The applicant should consider shifting the Computer Avenue driveway further to the south to increase the distance between the driveway and the intersection of Computer Avenue and Maryland Road.

4. A longer driveway throat should be provided between Computer Avenue and the first internal intersection at the Computer Avenue driveway.

5. Sight distance measurements should be depicted on the plan in future submissions for the driveway locations along Computer Avenue and Blair Mill Road (S.R. 2026) as required in **Section 295-15.C** of the **Subdivision and Land Development Ordinance**.

6. According to **Section 300-18** of the **Subdivision and Land Development Ordinance,** sidewalk should be provided along all streets. The plan currently does not show any sidewalk along the Blair Mill Road (S.R. 2026) site frontage, thereby not satisfying the ordinance requirement.

7. According to **Section 350-102.V(1)(n)** of the **Zoning Ordinance,** the greater of 1.5 parking spaces per unit or 1 parking space per bedroom is the minimum required parking for an apartment complex. The proposed apartment complex will consist of 272 apartment units resulting in 408 required parking spaces or 424 bedrooms resulting in 424 required parking spaces. The plan shows 424 parking spaces, thereby satisfying the ordinance requirement.

8. The applicant should install high visibility crosswalks at the intersection of Computer Avenue and Maryland Road and upgrade the ADA ramps on the northwestern (site adjacent) corner of the intersection as needed to match the proposed sidewalk.

9. The plan should show a minimum of 9 ADA parking spaces in order to meet current ADA standards.

10. Turning templates should be provided with future plan submissions demonstrating the ability of a trash truck, emergency vehicle, and the largest expected delivery truck to maneuver into and out of the Computer Avenue and Blair Mill Road (S.R. 2026) driveways and entirely through the site.

11. The Township Fire Marshal should review the emergency vehicle turning templates for accessibility and circulation needs of emergency apparatus. Ensure that any correspondence, including any review comments and/or approvals, is included in subsequent submissions.

12. The applicant's team should identify any special amenities (i.e., swimming pool, fitness center, clubhouse, etc.) that the site may have that would generate additional traffic from non-residents to/from the site.

13. ADA ramps should be shown on the plan at the following locations:

    - At locations where sidewalk meets the drive aisles.
    - On both sides of all crosswalks.
    - Across the Computer Avenue driveway where the sidewalk meets the driveway.

14. Review of the on-site ADA ramps has not been completed by our office, but these ramps must be designed by the applicant's engineers to comply with Federal/PennDOT design standards for ADA facilities.

15. All proposed signs should be clearly labeled on the plan.

16. A "Stop" sign and stop bar should be shown on the plan on the driveway approach to Computer Avenue.

17. A "Stop" sign should be shown on the plan on the driveway approach to Blair Mill Road (S.R. 2026).

18. The proposed development will be subject to the Township's Transportation Impact Fee in accordance with the Township's *Transportation Impact Fee Ordinance*. Based on Land Use Code 220 (Multifamily Housing – Low Rise) and Land Use Code 221 (Multifamily Housing – Mid Rise) in ITE's publication, *Trip Generation Manual, 11th Edition,* the proposed 272 apartment units will generate approximately 130 "new" trips during the weekday afternoon peak hour. The applicant should provide additional information on the existing use(s) of the site. Once this information is provided to our office, we will determine if a credit towards the transportation impact fee for the existing use(s) of the site may be applicable for this project.

19. A PennDOT Highway Occupancy Permit is required for any modifications located within the right-of-way of Blair Mill Road, since Blair Mill Road (S.R. 2026) is a State Roadway. If the applicant pursues any work within the legal PennDOT right of way, the Township and our office must be copied on all correspondence and submissions to PennDOT, as well as invited to any meetings between the applicant and PennDOT.

20. A more detailed review of the site and all transportation-related engineering elements on the plan can be conducted, as the Township deems necessary, if/when the application advance through the land development process. Additional comments could be raised at that time.

21. A response letter must be provided with the resubmission detailing how each comment below has been addressed, and where each can be found in the resubmission materials (i.e., page number(s)) to assist in the re-review process.

We trust that this review letter responds to your request and satisfactorily addresses the traffic issues that are related to the proposed development apparent to us at this time. If you or the Township have any questions, or require clarification, please contact me.

Sincerely,



Chad Dixson, AICP, PP
Senior Project Manager

CED/BMJ

cc: Matthew Candland, Upper Moreland Township Manager
Jim Hersh, P.E., Gilmore & Associates

I:\eng\UPPERMO1\822887 - Executive Mews\Project Management\Submissions\2022-08-18 Sketch Plan\Review\2022-09-08 Review Letter #1 - Executive Mews.docx

Township of Upper Moreland

117 Park Avenue
WILLOW GROVE, MONTGOMERY COUNTY, PENNSYLVANIA 19090
Telephone (215) 659-3100 Ext. 1032/1033 / Fax (215) 659-8899

Paul E. Purtell
Director of Code Enforcement

Upper Moreland Township Board of Commissioners
Regular Meeting

Agenda Item:	Green Tree Group Contracting, LLC Revised subdivision plan and waiver request 4121 Blair Mill Road
Recommended Action:	Consideration and move for action by full Board
Background:	Applicant seeks to amend previous subdivision approval by requesting a waiver of the curb requirements along Blair Mill Road and tree removal in same.
Fiscal Impact/Source:	N/A
Alternatives:	N/A
Attachments:	Applicant waiver request letter, revised site plan and Twp. Engineer recommendation.

300 Farm Lane
Doylestown, PA 18901
PA LIC # PA051946
Tel (215) 622-9777
Fax (888) 519-1447

To Whom it may Concern,

Green Tree Group Contracting (GTG) is requesting a waiver from installing curb along Blair Mill Rd. GTG has already received a waiver stating we do not have to widen the cart path of Blair Mill Rd. If the curb is installed where proposed on the approved LD plan, roughly 2' of grass between the new curb and the existing edge of asphalt for Blair Mill Rd will need to be removed and restored with asphalt. This will contradict our previous waiver from extending the cart path and have cost implications that were not budgeted into the project. Eliminating the proposed curb will also allow for the PECO utility pole to remain in its current location, eliminating the inconvenience to the neighbors of the property.

In speaking with the Township Engineer and Civil Engineer, it would be preferred to not install a curb at all rather than install it along the existing edge of asphalt due to potential safety concerns for vehicles and plows. This request comes with the understanding that the sidewalk will still be installed a minimum 5' from the edge of existing asphalt.

GTG would also like to request at this time a waiver from taking down the large trees along Blair Mill Rd. The existing trees are mature and in healthy condition. They will provide the new homeowners with much desired privacy from the traffic on Blair Mill Rd. This request also comes with the under standing that the sidewalk will still be installed along Blair Mill Rd.

Respectfully,

Green Tree Group Contracting, LLC

Commonwealth of Pennsylvania:
County of _____:

On the _____ day of _____, _____, before me the subscriber a Notary Public of the Commonwealth of Pennsylvania personally appeared: Joanne L. Hartshorne, who acknowledged this plan to be the official plan of lots and property shown thereon situated in the Township of Upper Moreland, County of Montgomery, Commonwealth of Pennsylvania and desired that this plan be recorded according to law.

WITNESS MY HAND AND NOTARIAL SEAL this _____ day of _____, _____.

_____
Notary Public (SEAL)

My Commission Expires _____.

_____
Joanne L. Hartshorne

APPROVED BY:
the Board of Commissioners of the Upper Moreland Township this _____ day of _____, _____

ATTEST:

_____
(President)

_____
(Secretary)

_____
(Township Engineer)

Recorded in the office of the Recorder of Deeds of Montgomery County, Norristown, Pennsylvania in;

Plan Book_____, Page No._____.

On _____, 20_____

By _____
(Recorder)

ENGINEER'S CERTIFICATION:

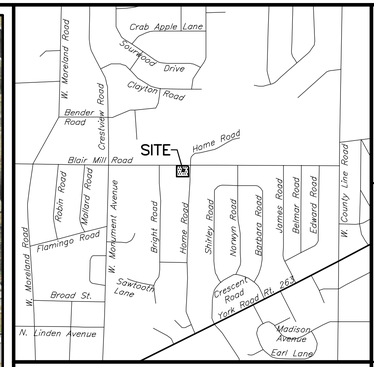
I hereby certify that I am a registered engineer, licensed in compliance with the laws of this Commonwealth of Pennsylvania; that this plan represents an engineering land survey; that any existing monumentation shown hereon exists as located; and the dimensional and geodetic details are correct.

_____
(Signature)

SEAL _____ _____
DATE



AERIAL PHOTOGRAPH / SCALE: 1"=100'



LOCATION MAP / SCALE:1"=1000'

1000 500 0 1000 2000 3000
LOCATION MAP GRAPHIC SCALE

NORTH ARROW

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER NICHOLAS T ROSE ENGINEER 39251-E 9/6/22

GENERAL NOTES:

1. APPLICANT/OWNER:
JOANNE L. HARTSHORNE
136 S DIETZ MILL ROAD
TELFORD, PA 18969

2. PROPERTY INFORMATION:
TAX PARCEL NO. 59-00-01111-00-9
TAX BLOCK 63 UNIT 3
DEED BOOK 5579, PAGE 2197
SITE ADDRESS:
4121 BLAIR MILL ROAD
HATBORO PA, 19040
LOT AREA TO EXIST. RIGHT-OF-WAY = 25,799 SF (0.5923 ACRES)

3. BOUNDARY AND TOPOGRAPHY AS SHOWN TAKEN FROM DEEDS AND PLANS OF RECORD, AND A FIELD SURVEY PERFORMED BY PROTRACT ENGINEERING IN SEPTEMBER 2019.

4. PROTRACT ENGINEERING, INC. DOES NOT GUARANTEE THE ACCURACY OF LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS, NOR DOES PROTRACT ENGINEERING, INC. GUARANTEE THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. TO COMPLY WITH ACT 187 THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES BEFORE THE START OF WORK.

5. SITE IS OUTSIDE THE FEMA 100-YEAR FLOODPLAIN AS SHOWN ON PANEL 42091C0311G, PREPARED FOR MONTGOMERY COUNTY, PA DATED MARCH 2, 2016.

6. SOIL CLASSIFICATION TAKEN FROM THE USDA/NRCS WEB SOIL SURVEY DATA OF MONTGOMERY COUNTY, PA VERSION 13, DATED SEPT. 2018. SOILS ON SIGHT ARE: UrcB – URBAN LAND-LAWRENCEVILLE COMPLEX, 0 TO 8 PERCENT SLOPES, AND UusB – URBAN LAND-UDORTHENTS, SHALE AND SANDSTONE COMPLEX, 0 to 8 PERCENT SLOPES.

7. ZONING DATA: ZONED R-3 – RESIDENTIAL DISTRICT

CATEGORY	REQUIRED	LOT 1	LOT 2
MIN LOT AREA	14,000 SF	10,948 SF*	14,000 SF
MIN LOT WIDTH	80 FT	64.3 FT*	> 80 FT
MIN FRONT YARD	40 FT	63.8 FT	> 40 FT
MIN SIDE YARD	10 FT	10.8 FT	> 10 FT
MIN SIDE YARD (AGG.)	30 FT	24.3 FT*	> 30 FT
MIN REAR YARD	30 FT	77.3 FT	> 30 FT
MAX BUILDING COVER	30 %	8.7 %	< 30 %
MAX IMPERVIOUS COVER	40 %	17.9 %	< 40 %

*ZONING RELIEF GRANTED

8. ON OCTOBER 24, 2019, THE ZONING HEARING BOARD OF UPPER MORELAND TOWNSHIP GRANTED THE FOLLOWING ZONING RELIEF. (NO. P.H. 19-38):
ZONING ORDINANCE SECTION 350-31, TO ALLOW A LOT AREA OF 10,948 SF FOR LOT 1, WHERE 14,000 SF IS REQUIRED.
ZONING ORDINANCE SECTION 350-31, TO ALLOW A LOT WIDTH OF 64.3 FT FOR LOT 1, WHERE 80 FEET IS REQUIRED.
ZONING ORDINANCE SECTION 350-34, TO ALLOW AN AGGREGATE SIDE YARD SETBACK OF 24.3 FEET FOR LOT 1, WHERE 30 FEET IS REQUIRED.

9. THE FOLLOWING WAIVERS WERE GRANTED ON AUGUST 3, 2020 BY RESOLUTION R-2020-32 FROM THE UPPER MORELAND SUBDIVISION AND LAND DEVELOPMENT ORDINANCE:
SECTION 300-15.B. FROM THE REQUIREMENT TO WIDEN THE CARTWAY WIDTH OF BLAIR MILL ROAD (S.R. 2026).
SECTION 300-15.C. FROM THE REQUIREMENT TO INSTALL ROAD IMPROVEMENTS (ROAD WIDENING AND DRAINAGE FACILITIES) ALONG BLAIR MILL ROAD (S.R. 2026).
SECTION 300-52.C.(1) THAT INFORMATION (OTHER THAN THAT SHOWN, INCLUDING THE AERIAL PHOTO) WITHIN 400 FEET OF THE SITE NOT BE REQUIRED TO BE SHOWN UNLESS DEEMED RELEVANT BY THE TOWNSHIP OR ITS CONSULTANTS.

10. ANY FUTURE DEVELOPMENT OF LOT NO. 2 WILL REQUIRE BUILDING PERMIT APPLICATIONS AND A GRADING/STORMWATER PERMIT APPLICATION. THIS SUBDIVISION IS INTENDED TO CREATE A BUILDING LOT. HOWEVER, NO CONSTRUCTION, EARTH DISTURBANCE, OR ACCESS SHALL BE PERMITTED ON LOT NO. 2 UNTIL SUCH A TIME AS A BUILDING PERMIT PLAN, FILED IN COMPLIANCE WITH UPPER MORELAND TOWNSHIP CODE IS SUBMITTED, REVIEWED AND APPROVED BY THE TOWNSHIP.

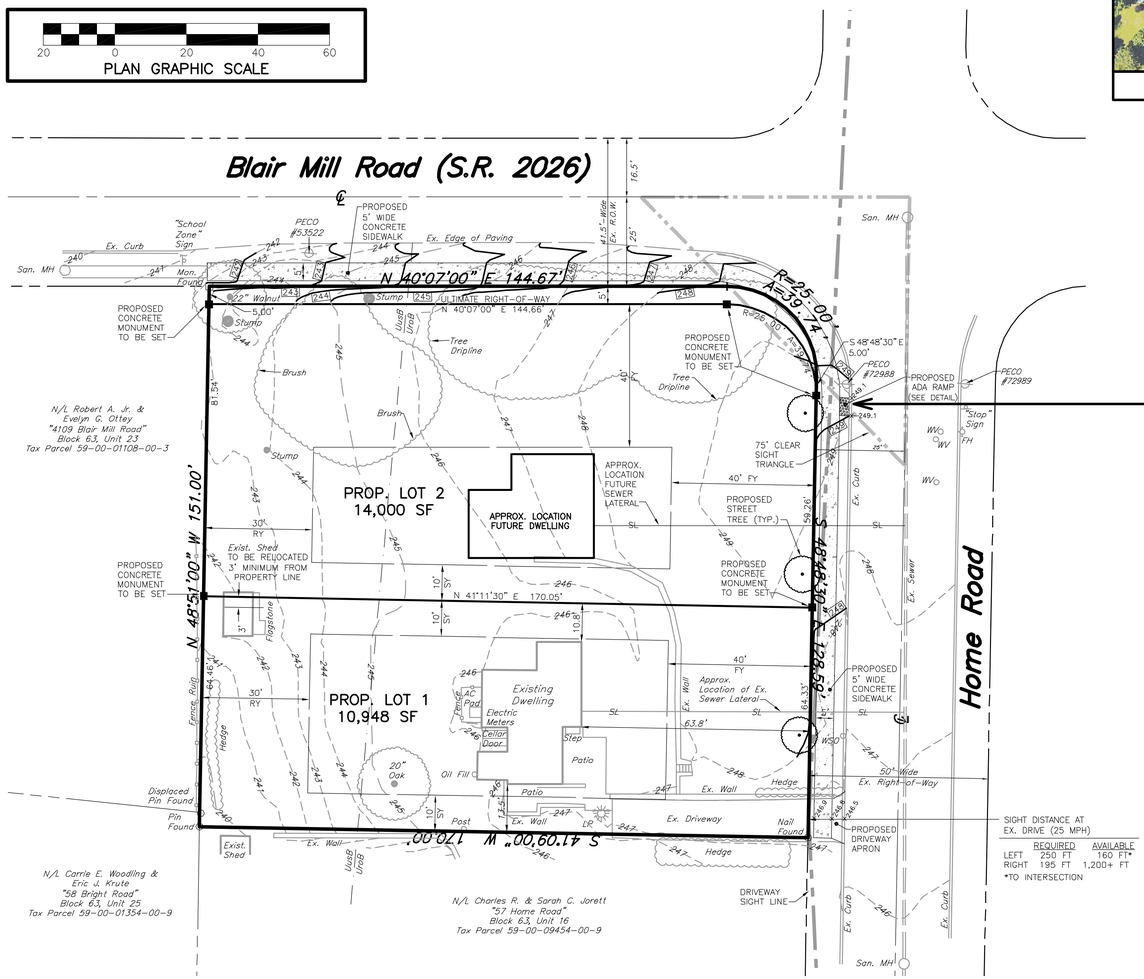
11. DEDICATION OF RIGHT-OF-WAY ALONG BLAIR MILL ROAD (S.R. 2026) IS PROPOSED TO THE AGENCY HAVING JURISDICTION.

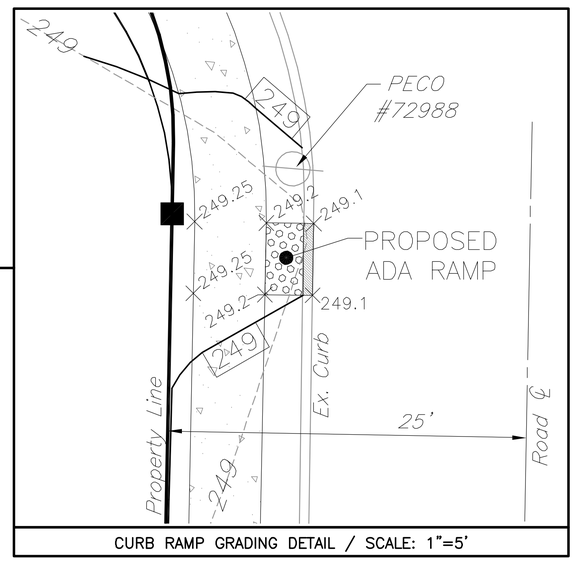
12. THE EXISTING SHED ON LOT 1 IS TO BE RELOCATED PRIOR TO THE PLAN BEING RECORDED.

13. AS PER SLDO SECTION 300-16.A(1), IN THE CASE OF A CORNER LOT, ANY DRIVEWAY SHALL TAKE ACCESS FORM THE LESSER CLASSIFICATION STREET, AS SUCH, THE DRIVEWAY FOR ANY FUTURE DWELLING ON LOT 2 SHALL TAKE ACCESS TO HOME ROAD AND BE LOCATED A MINIMUM OF 40 FEET FROM THE BLAIR MILL ROAD RIGHT-OF-WAY.

14. ANY PROPOSED PROPERTY MARKERS SHALL BE INSTALLED AND CERTIFIED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN PENNSYLVANIA.

20 0 20 40 60
PLAN GRAPHIC SCALE





CURB RAMP GRADING DETAIL / SCALE: 1"=5'

LEGEND

- EX. BOUNDARY
- PROP. LOT LINE
- EX. ADJACENT OWNER
- EX. RIGHT-OF-WAY
- ULTIMATE RIGHT-OF-WAY
- 300 EX. CONTOUR – 5' INTERVAL
- 299 EX. CONTOUR – 1' INTERVAL
- BUILDING SETBACK LINE
- EX. BUILDING
- EX. SIDEWALK/CONCRETE
- EX. EDGE OF PAVING/DRIVE
- EX. FENCE
- EX. SANITARY LINE
- EX. SOILS LINES

MCPC No. 20-0044-001

PROCESSED and REVIEWED. A report has been prepared by the Montgomery County Planning Commission in accordance with the Municipalities Planning Code.

Certified this date

For the Director
Montgomery County Planning Commission

No.	Date	Description	Drafter/Engineer
4	08-30-22	REMOVE BLAIR MILL ROAD CURBING	JGB
3	06-18-21	PER REVIEW COMMENTS	JGB
2	03-31-21	PER REVIEW COMMENTS	EMS
1	12-18-20	PER APPROVAL CONDITIONS RESOLUTION	EMS
Project Number		CAD File Name	EMS/NTR
H2570		BASE.DWG	---

Township UPPER MORELAND
County MONTGOMERY
Date 1-28-20
Scale 1"=20'
Sheet Number 1 of 2

PLAN OF MINOR SUBDIVISION
PREPARED FOR
4121 BLAIR MILL ROAD

ProTract Engineering, Inc.
64 East Moreland Avenue, P.O. Box 58
Hatboro, Pennsylvania 19040
Phone (215)442-9230
Fax (215)442-9238

From: Jim Hersh
Date: September 13, 2022
To: Lucas Long , Nick Rose
Cc: Purtell, Paul
Subject: RE: 4121 Blair Mill Rd - Curb

Paul,

I have no objection to the request for waiver of curb along Blair Mill Road. My only comment is that the submitted plan also removes the ADA ramp that was previously proposed at the curb return. There are complementary ramps across Blair Mill Road on the Horsham side, so I would suggest the ADA ramp be installed along the Upper Moreland side as well. Applicant will need to go to PennDOT for the sidewalk anyways so incorporating the ramp will not extend their permit path.

Thanks
Jim

James Hersh, P.E., Senior Project Manager
Gilmore & Associates, Inc.
65 E. Butler Avenue, Suite 100, New Britain, PA 18901
Main: 215-345-4330 x330 | Fax: 215-345-8606

www.gilmore-assoc.com | BUILDING ON A FOUNDATION OF EXCELLENCE

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TOWNSHIP of UPPER MORELAND

Montgomery County, Pennsylvania
117 Park Avenue, Willow Grove, PA 19090-3215
Telephone (215) 659-3100 / Fax (215) 659-7363

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Township Solicitor

Upper Moreland Township Board of Commissioners
Community Development Committee Meeting
September 19, 2022

Agenda Item: **New Penn DOT Grant – Traffic Signal Technologies Program**

Recommended Action: Recommend that the Board of Commissioners ratify the action to direct Anton Kuhner, Township Traffic Engineer, to prepare and submit an application for this grant.

Background/Analysis: The Township recently received information concerning a new Penn DOT grant that will provide funding for traffic signal upgrades. The deadline for applications is September 30th.

In an earlier email to the Board, I explained that the Sept. 30th deadline would not allow us to follow our normal process of discussing this at a CDC meeting and then approving it at a board meeting since the next board meeting is October 3rd, several days after the deadline.

With this in mind, the Board approved directing our traffic engineer to prepare and submit the grant, place this on the Sept. 19th CDC agenda and then ratify the decision at the October 3rd board meeting.

Fiscal Impact/Source: There does not appear to be a match requirement. Consequently, the only cost to the Township would be the time staff would spend on administering the grant.

Alternatives: There may be other grant sources for this type of work but it might have a match requirements

Attachments: Email Summary from Anton Kuhner and Links to more information

Prepared by: Matt Candland, Township Manager

From: Candland, Matthew
Sent: Thursday, September 1, 2022
To: McFatridge, Kip; Lockard, Cheryl; Kevin Spearing; Whiting, Charles; Valenza, Samuel; Scull, Nicholas; Prousi, Anthony
Cc: Sykes, Vicky; Schaible, Randy; Elsier, David
Subject: FW: NEW STATE GRANT - Traffic Signal Technologies Program

Commissioners,

Below is an email we received from Anton Kuhner yesterday. As you can see, he has come across a grant program that could provide funding for us to upgrade the traffic signals on 611.

Our normal process would be to take this matter to the CDC for its consideration and then to the board for final approval. Since the deadline for this grant is September 30th it does not appear that we would be able to follow our normal process.

We would suggest that (1) we have Anton move forward with preparing the grant application, (2) we place this on the Sept. 19th CDC meeting and assuming the CDC is ok with it, (3) move forward with submitting the grant prior to Sept. 30th. The board could then ratify it at the October board meeting.

Please let me know if you have any concerns with this approach.

Matt

From: Kuhner, Anton
Sent: Wednesday, August 31, 2022 5:21 PM
To: Elsier, David; Candland, Matthew
Subject: FW: NEW STATE GRANT - Traffic Signal Technologies Program

Matt and Dave,

Below is information that we have received on a new PennDOT Traffic Signal Grant. There is $5 million available statewide and the project scope is limited. But I think a good project would be to replace the controllers, comm and radio for the Route 611 corridor in order to tie into the PennDOT's UCC system. This is something I mentioned to Kevin Lewis and he liked the idea. PennDOT wants to get this corridor on their system. This grant program has no match requirement.

The grant is due Sept 30, but I think we have time to put an application in. Let me know what you think.

As part of the state's 2022-2023 budget signed into law earlier this month, a special allocation of $5 million was set aside for a competitive grant program for municipalities to install and maintain traffic signal technologies, such as signal timing upgrades, adaptive signal installation, and automated signal performance measure implementation. This funding, which is being called the Traffic Signal Technologies Grant program, will be administered in a similar fashion to the Green Light-Go program, and no local matching funds are required.

The full program guidelines are available here: https://www.dot.state.pa.us/public/Bureaus/BOMO/Portal/TST_INFO.pdf , and frequently asked questions are available here: https://www.dot.state.pa.us/public/Bureaus/BOMO/Portal/TST_FAQ.pdf

It was important to bring this to your attention now because the program's website is now active at https://www.dot.state.pa.us/public/Bureaus/BOMO/Portal/TSPortal/FUNDTST.html , and the grant program is on an accelerated timeline.

- Pre-application scoping forms are required and may be submitted at any time to PennDOT's Central Office – the form is available here: http://www.dot.state.pa.us/public/Bureaus/BOMO/Portal/TST_Scoping_Form.pdf
- According to an announcement at a regional meeting earlier today, Central Office will seek to meet with municipalities to further refine applications during the month of August.
- The grant program itself will be open for applications in September only; the due date is September 30.
- Applications will be accepted through DCED's Single Application.

It should be noted that this program is not for most activities that would be funded under Green Light-Go, such as installing or replacing signals, signal heads, poles, signs, warning devices, or other construction. This is solely for use for upgrading traffic signal timing or control technology.

Anton Kuhner, P.E. | Senior Project Manager
O: (215) 283-9444 | D: (267) 419-1239
425 Commerce Drive, Suite 200
Fort Washington, PA 19034
akuhner@mcmahonassociates.com

CLICK BELOW to See Our Latest Projects & News!

McMAHON
a Bowman company

As of May 2022, McMahon has officially joined Bowman.
Visit bowman.com for more information.

Please consider the environment before printing this email

TOWNSHIP of UPPER MORELAND

Montgomery County, Pennsylvania
117 Park Avenue, Willow Grove, PA 19090-3215
Telephone (215) 659-3100 / Fax (215) 659-7363

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Township Solicitor

Upper Moreland Township Board of Commissioners
Community Development Committee Meeting
September 19, 2022

Agenda Item: **Failing Septic Systems On Manor House Rd.**

Recommended Action: No recommendation at this time. We will share cost estimates with affected residents and hear their questions, concerns, etc.

Background/Analysis: Several months ago, at a CDC meeting, a number of residents who live along Manor House Rd. expressed their concerns about their failing septic systems. The resident's specific septic systems seem to be in varying degrees of failure.

The CDC directed that staff speak with the Upper Moreland-Hatboro Joint Sewer Authority (UMHJSA) and ask them to evaluate the feasibility and cost to connect these residents to the public sewer system.

Staff met with officials from the UMHJSA, who agreed to complete the evaluation.

Fiscal Impact/Source: There is a range of $29,000 to $45,000 per house depending on a number of factors outlined in the UMHJSA cost estimate report.

Alternatives: It is unclear what options the residents have with respect to repairing or replacing their existing septic systems. These costs are unknown at this time.

Attachments: UMHJSA Cost Estimate to Sewer Manor House Rd.

Cost Estimate for Installing Sewers on Manor House - Upper Moreland Township

Item	Units	# Units	Average Conditions $/Unit	Average Conditions Costs	Difficult Conditions $/Unit	Difficult Conditions Costs
Predesign Activities						
Engineering evaluation	1	L.S.	$ 5,000	$ 5,000	$ 6,000	$ 6,000
Topographical survey	1	L.S.	$ 6,000	$ 6,000	$ 9,000	$ 9,000
Legal Review	1	L.S.	$ 6,000	$ 6,000	$ 9,000	$ 9,000
Review survey plot	1	L.S.	$ 1,000	$ 1,000	$ 1,500	$ 1,500
Geoprobe - Bid Specs, drilling, oversight	1	L.S.	$ 12,000	$ 12,000	$ 18,000	$ 18,000
Develop cross-section	1	L.S.	$ 3,000	$ 3,000	$ 3,000	$ 3,000
Engineering Design/Specs	1	L.S.	$ 6,000	$ 6,000	$ 12,000	$ 12,000
Connection Tapping Fee - Manor House	4	Houses	$ 6,000	$ 24,000	$ 6,000	$ 24,000
Connection Tapping Fee - Edge Hill	2	Houses	$ 6,000	$ 12,000	$ 6,000	$ 12,000
Predesign Activities Total				$ 75,000		$ 94,500
Gravity Sewer						
Bid Review and Award	1	L.S.	$ 1,000	$ 1,000	$ 2,000	$ 2,000
Install gravity sewer - 509/510/517/519 Manor House	350	L.F.	$ 150	$ 52,500	$ 400	$ 140,000
Lateral Installation	4	Houses	$ 6,000	$ 24,000	$ 12,000	$ 48,000
Grinder pump system/install	0 to 4	Pumps	$ 10,000	$ -	$ 10,000	$ 40,000
Oversight	15	Days	$ 1,500	$ 22,500		$ -
	25	Days		$ -	$ 1,500	$ 37,500
Install gravity sewer - Edge Hill	250	L.F.	$ 150	$ 37,500	$ 400	$ 100,000
Lateral Installation	2	Houses	$ 6,000	$ 12,000	$ 12,000	$ 24,000
Grinder pump system/install	0 to 2	Pumps	$ 10,000	$ -	$ 10,000	$ 20,000
Oversight	10	Days	$ 1,500	$ 15,000		$ -
	15	Days		$ -	$ 1,500	$ 22,500
LPSS Installation						
Bid Review and Award	1	L.S.	$ 1,500	$ 1,500	$ 2,000	$ 2,000
Install LPSS - 509/510/517/519	350	L.F.	$ 40	$ 14,000	$ 50	$ 17,500
Lateral Installation	4	Houses	$ 4,000	$ 16,000	$ 7,000	$ 28,000
Grinder pump system/install	4	Pumps	$ 10,000	$ 40,000	$ 10,000	$ 40,000
Oversight	3	Days	$ 1,500	$ 4,500		$ -
	7	Days		$ -	$ 1,500	$ 10,500
Install LPSS - Edge Hill	250	L.F.	$ 40	$ 10,000	$ 50	$ 12,500
Lateral Installation	2	Houses	$ 4,000	$ 8,000	$ 7,000	$ 14,000
Grinder pump system/install	2	Pumps	$ 10,000	$ 20,000	$ 10,000	$ 20,000
Oversight	2	Days	$ 1,500	$ 3,000		$ -
	3	Days		$ -	$ 1,500	$ 4,500
Gravity Sewer			Total Cost	Cost/House	Total Cost	Cost/House
Manor House if all 4 connect			$ 150,000	$ 37,500	$ 330,500	$ 82,625
Edge Hill if both connect			$ 90,500	$ 45,250	$ 200,000	$ 100,000
LPSS Installation			Total Cost	Cost/House	Total Cost	Cost/House
Manor House if all 4 connect			$ 118,000	$ 29,500	$ 153,000	$ 38,250
Edge Hill if both connect			$ 67,500	$ 33,750	$ 84,500	$ 42,250

Township of Upper Moreland

117 Park Avenue
WILLOW GROVE, MONTGOMERY COUNTY, PENNSYLVANIA 19090
Telephone (215) 659-3100 Ext. 1032/1033 / Fax (215) 659-8899

Paul E. Purtell
Director of Code Enforcement

Upper Moreland Township Board of Commissioners
Community Development Committee Meeting

Agenda Item:	Federal Realty Willow Grove SC Curb ramp installation deferment request 102 Park Avenue
Recommended Action:	Consideration and move for action to full Board
Background:	Applicant seeks to defer the installation of new accessible curb ramps along the Moreland Road frontage as indicated on approved land Development plans. Installation requires relocating PECO underground utility vault. Applicant would like to install during site work with previously approved pad site..
Fiscal Impact/Source:	N/A
Alternatives:	N/A
Attachments:	Email request and plan from applicant traffic engineer and recommendation from Twp. Engineer.

From: Hammond, Matt
Sent: Tuesday, August 2, 2022
To: Chad Dixson; Jim Hersh; Purtell, Paul
Cc: Duong, Tuan
Subject: Willow Grove Shopping Center - Existing ADA Ramp

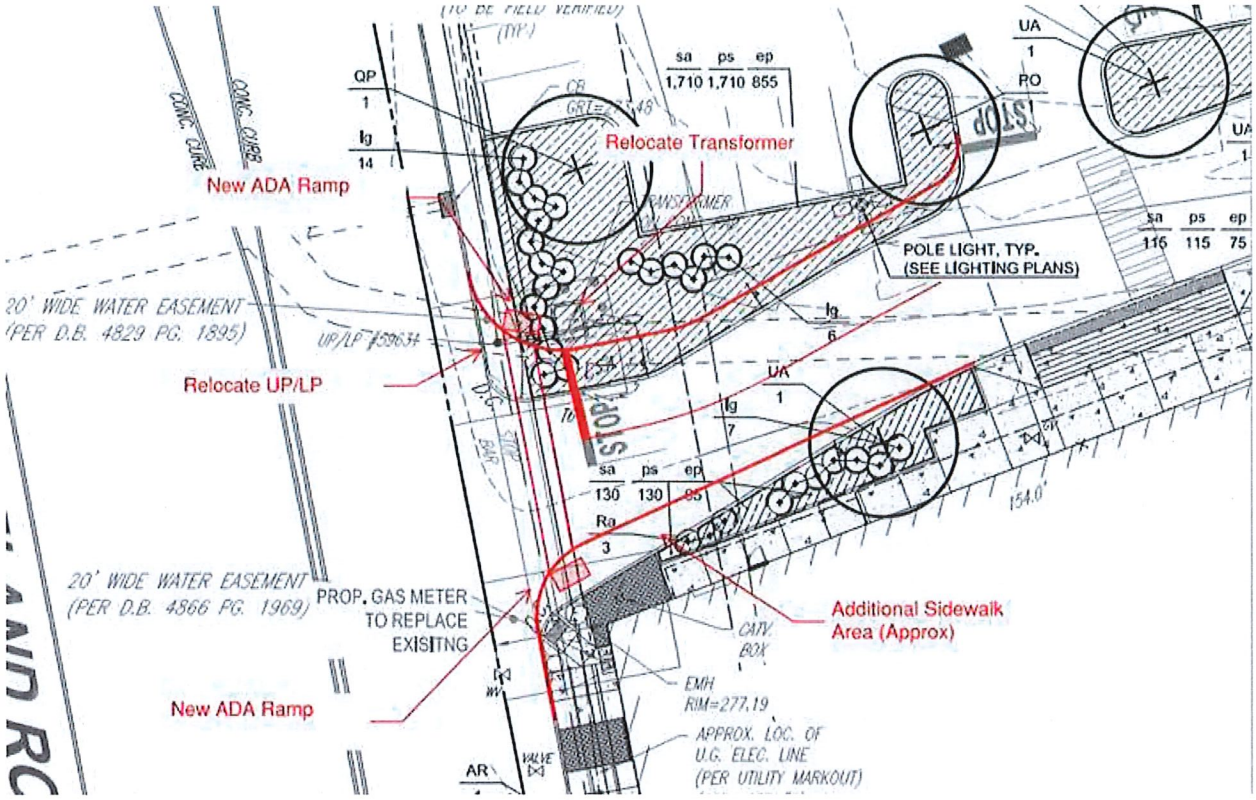
Chad, Jim & Paul,

Per my discussion with Chad yesterday, I am sending this email to ask if the Township would be willing to defer the upgrade of the existing ADA ramp on the south side on the southern site driveway on Moreland Rd as it relates to the current streetscape project along both Easton Road and Moreland Road. We have an application into PennDOT to permit the streetscapes project associated with the Willow Grove Shopping Center since some of the work is within the PennDOT ROW. At this point, most, if not all comments relating to this streetscape design have been addressed to the Department's satisfaction, however, PennDOT did bring up the existing ADA ramp in question even though it does not fall within PennDOT's jurisdiction. The following is a screenshot of the ramp in question:



The plan is to upgrade this ramp, as well as the receiving ramp on the north side of the driveway as part of the overall redevelopment of the Center, which was/is the subject of the Scoping Application submitted/reviewed by the Department (#S0620220034) and the Township. The issue we face at this time, is that in order to provide compliant ramps at this location, changes will need to occur to the existing driveway to accommodate the ramp(s). This is because of the manhole that exists on the south side of the driveway, which leads to a PECO vault containing a transformer. The Project Team was told this vault cannot be moved. We would need lower the manhole in order to provide the DWS behind the curb for the ADA ramp. Therefore, we cannot raise/relocate the manhole. The only other option is to shift the existing driveway far enough toward the egress side to not affect the manhole. This will also require a relocation of another transformer and utility pole on the egress side. This is something that will take time to address, as well as significant additional costs, which is why this upgrade is being proposed to be included in the redevelopment project, where the time and costs can be absorbed. We will need an HOP permit for the driveway modifications, which will include the upgraded ramps, and will be submitted as part of the overall redevelopment of the Center. At this time we are trying to accomplish the streetscape upgrades requested by the Township as part of a re-tenanting of one of the buildings in the Center and having to upgrade this ramp, and the receiving ramp now, will cause significant delay and significant additional costs.

The following is a basic sketch (will be refined) generally depicting what would need to be done to accommodate the upgrade of this ramp, which you will see, is a significant undertaking as it relates to the streetscape project.



Once you have had a chance to review the above, and discuss internally, please let us know your thoughts and if the Township would be agreeable to allowing the upgrade of these ramps to meet current ADA requirements to be part of the residential redevelopment, in lieu of the current streetscapes project.

Let us know if you need any additional information.

Thanks,
Matt

Matthew Hammond, P.E., *Executive Vice President*

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From: Jim Hersh
Sent: Tuesday, September 13, 2022
To: Purtell, Paul
Cc: Sykes, Vicky; Chad Dixson
Subject: Federal Realty curb deferment install

Thanks Paul. I'd say since the ADA ramps are related to PennDOT, the recommendation should come from McMahon. I'm copying Chad on this since he and I previously discussed. I would have no objection to them deferring until site work associated with the Retail Pad Site. I'm just not sure how that gets memorialized..... This might be something that needs discussion at CDC with Sean / Alex's opinion...

James Hersh, P.E., Senior Project Manager
Gilmore & Associates, Inc.
65 E. Butler Avenue, Suite 100, New Britain, PA 18901
Main: 215-345-4330 x330 | Fax: 215-345-8606

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From: Dixson, Chad
Sent: Tuesday, September 13, 2022
To: Jim Hersh; Purtell, Paul
Cc: Sykes, Vicky
Subject: Federal Realty – Curb Ramp Installation Deferment Request

Paul/Jim,

Based on our previous conversations, we recommended to TPD that Federal Realty make a proposal to the CDC for the deferment that memorializes it by committing that the ramp work be done by a certain date or with certain upcoming work such as the retail pad site, not open-ended or with the Phase 3 redevelopment which does not have a definitive schedule. I have attached the email that summarizes our previous discussions.

If you need something in addition to the attached email, please let me know.

Thanks.

-Chad

Chad Dixson, AICP, PP
McMahon, a Bowman company
O: (215) 283-9444 | C: (610) 999-3985 | D: (267) 419-1238
bowman.com | mcmahonassociates.com

From: Dixson, Chad
Sent: Wednesday, August 10, 2022
To: Purtell, Paul; Jim Hersh
Subject: RE: Willow Grove Shopping Center - Existing ADA Ramp

Paul/Jim,

Following up from our conversations from the last couple of days, I did speak with Matt Hammond @ TPD this morning and relayed our feedback that since the ramps are on the approved plan, the CDC needs to approve any type of deferral. I suggested that they present a proposal to the CDC at the September meeting when they will be there for the text amendment. I also suggested that their deferral request include a commitment that the ramps will be built at a time sooner than the Phase 3 overall redevelopment of the site, such as tying it to the occupancy of the pad site project or other ideas that they would like to present. Matt will relay this to their project team.

I also received a call from PennDOT yesterday asking for an update on the Township's review. I will send them an email and copy you guys that briefly explains the Township's process for considering and possibly approving a deferral.

Thanks.

-Chad

Chad Dixson, AICP, PP
McMahon, a Bowman company
O: (215) 283-9444 | C: (610) 999-3985 | D: (267) 419-1238
bowman.com | mcmahonassociates.com

Township of Upper Moreland

117 Park Avenue
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Telephone (215) 659-3100 Ext. 1032/1033 / Fax (215) 659-8899

Paul E. Purtell
Director of Code Enforcement

Upper Moreland Township Board of Commissioners
Community Development Committee Meeting

Agenda Item:	Federal Realty Willow Grove SC Draft text amendment for Phase III mixed use, residential, commercial/retail and structured parking.
Recommended Action:	Review proposed text amendment and provide feedback.
Background:	Federal Realty is requesting the UMT Board of Commissioners amend the TC District requirements which would permit Phase III of their project as proposed.
Fiscal Impact/Source:	N/A
Alternatives:	N/A
Attachments:	Proposed text amendment by Federal Realty, review comments from MCPC and Twp. consultants.

UPPER MORELAND TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

ORDINANCE NO. _____

AN ORDINANCE AMENDING THE CODIFIED ORDINANCES OF UPPER MORELAND TOWNSHIP, CHAPTER 350 (ZONING) ARTICLE XXXII (TOWN CENTER DISTRICT) TO PERMIT ALL OF THE PERIMETER FIRST FLOOR FRONTAGE ON ONE OF THE PROMINENT ROADS IN THE DISTRICT TO CONSIST OF OTHER THAN OFFICE OR RETAIL USES, PROVIDED THE MID OR HIGH RISE APARTMENT BUILDING CONSISTS OF AT LEAST 25% OFFICE OR RETAIL USES OF ITS ENTIRE FIRST FLOOR AGGREGATE SQUARE FOOTAGE (INCLUDING SQUARE FOOTAGE DEVOTED TO STRUCTURED PARKING) ; TO PERMIT A SINGLE DRIVE-THROUGH SALES USE IN A MIXED USE TOWN CENTER DEVELOPMENT; TO AMEND THE MAXIMUM HEIGHT PERMITTED IN A MIXED USE TOWN CENTER APARTMENT BUILDING IF RESIDENTIAL USE ON THE FIRST FLOOR OF THE BUILDING'S EXTERIOR FACADES IS LIMITED TO THE FRONTAGE OF THE BUILDING ON A TOWNSHIP STREET; TO AMEND THE BONUS PROVISIONS FOR CONDITIONAL USES IN THE TOWN CENTER DISTRICT; TO ENUMERATE THE CONDITIONS UPON A MIXED USE HIGH - RISE APARTMENT BUILDING IN THE TOWN CENTER DISTRICT WHICH IS PERMITTED SIX FLOORS AND OVER 250 RESIDENTIAL DWELLING UNITS; TO AMEND THE REQUIREMENTS FOR THE ARTICULATION OF THE FACADES OF HIGH-RISE RESIDENTIAL APARATMENT BUILDINGS CONTAINING 250 UNITS OR MORE; AND TO INCREASE THE MAXIMUM NUMBER OF BUILDINGS PERMITTED IN A TOWN CENTER DISTRICT PROJECT WITH A TRANSIT MANAGEMENT OVERLAY FROM 3 BUILDINGS TO 6 BUILDINGS.

ENACTED:_____

UPPER MORELAND TOWNSHIP

Montgomery County, Pennsylvania

ORDINANCE No. _____

AN ORDINANCE AMENDING THE CODIFIED ORDINANCES OF UPPER MORELAND TOWNSHIP, CHAPTER 350 (ZONING) ARTICLE XXXII (TOWN CENTER DISTRICT) TO PERMIT ALL OF THE PERIMETER FIRST FLOOR FRONTAGE ON ONE OF THE PROMINENT ROADS IN THE DISTRICT TO CONSIST OF OTHER THAN OFFICE OR RETIAL USES, PROVIDED THE MID OR HIGH RISE APARTMENT BUILDING CONSISTS OF AT LEAST 25% OFFICE OR RETAIL USES OF ITS ENTIRE AGGREGATE FIRST FLOOR SQUARE FOOTAGE (INCLUDING SQUARE FOOTAGE DEVOTED TO PARKING); TO PERMIT A SINGLE DRIVE-THROUGH SALES USE IN A MIXED USE TOWN CENTER DEVELOPMENT; TO AMEND THE MAXIMUM HEIGHT PERMITTED IN A MIXED USE TOWN CENTER APARTMENT BUILDING IF RESIDENTIAL USE ON THE FIRST FLOOR OF THE BUILDING'S EXTERIOR FACADES IS LIMITED TO THE FRONTAGE OF THE BUILDING ON A TOWNSHIP STREET; TO AMEND THE BONUS PROVISIONS FOR CONDITIONAL USES IN THE TOWN CENTER DISTRICT; TO ENUMERATE THE CONDITIONS UPON A MIXED USE HIGH - RISE APARTMENT BUILDING IN THE TOWN CENTER DISTRICT WHICH IS PERMITTED SIX FLOORS AND OVER 250 RESIDENTIAL DWELLING UNITS; TO AMEND THE REQUIREMENTS FOR THE ARTICULATION OF THE FACADES OF HIGH-RISE RESIDENTIAL APARATMENT BUILDINGS CONTAINING 250 UNITS OR MORE; AND TO INCREASE THE MAXIMUM NUMBER OF BUILDINGS PERMITTED IN A TOWN CENTER DISTRICT PROJECT WITH A TRANSIT MANAGEMENT OVERLAY FROM 3 BUILDINGS TO 6 BUILDINGS.

WHEREAS, the First Class Township Code and the Pennsylvania Municipalities Planning Code empowers the Board of Commissioners of Upper Moreland Township to enact zoning ordinances governing land use in the Township and making such regulations as are deemed necessary and appropriate relating to the public health, safety, cleanliness, convenience, comfort and general welfare of the citizens of the community of Upper Moreland Township; and

WHEREAS, an application for text amendment to the Upper Moreland Township Zoning Code has been filed by Federal Realty Investment Trust ("Applicant"), owner of several parcels of land located at the intersection of Easton Road, Moreland Road and Park Avenue in the Upper Moreland Town Center District -1 in order to facilitate the redevelopment of land in the Town Center into a mixed use (Residential and Retail) complex (within the property known

or formerly known as the Willow Grove Shopping Center) in keeping with the Willow Grove redevelopment and revitalization plans of the Township; and

WHEREAS, Applicant proposes a plan that the Commissioners hope will encourage mixed use redevelopment within walking distance of the Willow Grove Train Station and provide adequate parking for its uses; and

WHEREAS, the Commissioners would like the proposed mixed use development or redevelopment on the property in question to "require a pedestrian scale and design, including, if possible, shop windows, retail and residential entrances" and "lively, human-scaled gathering places," and the Applicant has presented plans to the Commissioners which require minor modifications to the zoning ordinance and the design standards of the TC-1 Zoning District Ordinance to achieve its design and desirability under the Ordinance.

NOW, THEREFORE, it is hereby **ENACTED** and **ORDAINED** by the Upper Moreland Township Board of Commissioners as follows:

SECTION I. **Amendment to Code.**

The Code of Upper Moreland Township, Chapter 350 (Zoning), Article XXXII (Town Center Districts), Section 350-260 (Conditional Uses) is hereby amended to remove the existing B.(1) and replace it with the following new subsection B.(1):

> (1) 50% of the aggregate first floor of that part of the building located along the street frontages on York Road, Easton Road. Park Avenue, Moreland Road and Davisville Road shall be office or retail uses unless the Board of Commissioners, under Section 350-265 (Bonus Provisions for Conditional Uses) (a) allows less than 50% of the first floor frontage of that part of the building, but no less than 2000 square feet, to be office or retail use; or (b) allows none of the first floor frontage of that part of the building to be used for office or retail, provided that at least 25% of the mid or high rise apartment building's aggregate first floor square footage (including space devoted to structure parking) consists of office or retail uses.

SECTION II. Amendment to Code.

The Code of Upper Moreland Township, Chapter 350 (Zoning), Article XXXII (Town Center Districts), Section 350-261 (Prohibited Uses) is hereby amended to remove subsection (C.) and replace it with the following new subsection C. :

> (C) Drive-through sales, except for one such use in a Mixed-Use Town Center Development and only if such use can be demonstrated (to the reasonable satisfaction of the Commissioners and the Township Traffic Consultant) to provide adequate queuing for the use and a design for traffic flow around the use which does not disrupt the remainder of the traffic circulation within the Town Center Project.

SECTION III. Amendment to Code.

The Code of Upper Moreland Township, Chapter 350 (Zoning), Article XXXII (Town Center Districts), Section 350-262 (Development Standards) is hereby amended to change the maximum height referenced in line 5 of subsection 6 (Building Height) so that it hereafter reads… "for conditions when maximum heights of 65 feet and 85 feet are permitted for certain types of buildings".

SECTION IV. Amendment to Code.

The Code of Upper Moreland Township, Chapter 350 (Zoning), Article XXXII (Town Center Districts) Section 350-265 (Bonus Provisions for Conditional Uses) is hereby amended to modify the language of the existing subsection E.(2)(c) so that it shall hereafter read as follows: "…(c) is located in a lot having an aggregate frontage of 150 feet or more on York Road, Easton Road, Davisville Road, Park Avenue, or Moreland Road, provided that the Applicant submits a traffic study with its Conditional Use Application and proposes adequate and appropriate traffic improvements and modifications to streets impacted by new traffic generated by the development (if any)."

SECTION V. Amendment to Code.

The Code of Upper Moreland Township, Chapter 350 (Zoning), Article XXXII (Town Center Districts), Section 350-265 (Bonus Provisions for Conditional Uses) is hereby amended to add a new subsection B.(3) as follows:

(3) A total maximum building height of 85 feet in the TC1 District is permitted for mixed use (retail and residential) mid-rise or high-rise rise apartment buildings that have at least 220 dwelling units if all of the following provisions are met:

(a) The building will be visible from at least 3 streets in the Township and the lot in which the building is constructed should be located at a prominent corner of streets in the Township such as Easton, York, Davisville, Moreland and Park.

(b) The lot on which the building is located shall have frontage on at least 2 of the roads named in subparagraph (a) immediately above.

(c) The building will be served by structure and/or underground parking sufficient to supply the complete parking requirement for the residential units in the building.

(d) The height of the building where it immediately fronts on a public street shall not exceed 72 feet.

Section VI. Amendment to the Code

The Code of Upper Moreland Township, Chapter 350 (Zoning), Article XXXII (Town Center Districts), Section 350-274 (A)(5)(c) is hereby amended to modify the existing text as follows, beginning with line 4:

Section 350-274 (A)(5)(c)

"...and protruding a minimum of 2 inches. Facades of mixed-use buildings (retail and residential) shall have a vertical articulation at a maximum distance of 25 feet of continuous façade along Township roads. Facades of such mixed use buildings not fronting on Township roads shall have a vertical articulation at a minimum distance of 35 feet and a maximum distance of 75 feet with articulation

being accomplished through changes and plans or building material for a minimum of 1 foot wide and protruding a minimum of 2 inches. See Section 350-274, table 3.

SECTION VI. the Code

The Code of Upper Moreland Township, Chapter 350 (Zoning) Article XXXIV (Transit Management Overlay District), Section 350-281 (Design Standards) is hereby amended to remove existing subsection B. and replace it with the following new subsection B. :

B. A maximum of 3 buildings may be erected, altered or used on a lot or lots unless the development incorporates a mixed use building of residential and retail uses, in which case a maximum of 6 buildings may be erected, altered or used on such lot or lots.

SECTION VII. Severability.

The provisions of this Ordinance are severable, and if any section, sentence, clause part, or provision herein shall be held illegal, invalid, or unconstitutional by any Court of competent jurisdiction, such decision of the Court shall not effect or impair the remaining sections, sentences, clauses, parts, or provisions of the Ordinance. It is hereby declared to be the intent of the Board that this Ordinance would have been adopted as if such illegal, invalid, or unconstitutional section, sentence, clause, part, or provision had not been included herein.

SECTION VIII. Repealer.

All other ordinances or resolutions or parts thereof insofar as they are inconsistent with this Ordinance are hereby repealed.

SECTION IX. Effective Date.

This Ordinance shall become effective five (5) days after enactment.

***

ORDAINED AND ENACTED this _____ day of _____, 2022, by the Upper Moreland Township Board of Commissioners.

UPPER MORELAND TOWNSHIP
BOARD OF COMMISSIONERS

_____
Clifton McFatridge, *President*

[Seal]

Attested by:

_____
Matthew C. Candland
Township Manager/Secretary

UPPER MORELAND TOWNSHIP

LEGAL NOTICE

On _____, 2022, after 7:00 PM, the Upper Moreland Township Board of Commissioners, during its regularly scheduled meeting will consider enacting and may vote to enact the following ordinance:

An Ordinance amending the codified ordinances of Upper Moreland Township, Chapter 350 (Zoning) Articles XXXII (Town Center District) and Article XXXIV (Transit Management Overlay District) to permit all of the perimeter first floor frontage on one of the prominent roads in the district to consist of other than office or retail uses, provided the mid or high rise apartment building consists of at least 25 % office or retail uses of its entire first floor aggregate square footage (including square footage devoted to structured parking); to permit a single drive-through sales use in a mixed use town center development; to amend the maximum height permitted in a mixed use town center apartment building if residential use on the building's exterior facades is limited to the frontage of the building on a township street; to amend the bonus provisions for conditional uses in the town center district; to enumerate the conditions upon a mixed use high - rise apartment building in the town center district which is permitted six floors and over 250 residential dwelling units; to amend the requirements for the articulation of the facades of high-rise residential apartment buildings containing 250 units or more; and to increase the maximum number of buildings permitted in a town center district project with a transit management overlay from 3 buildings to 6 buildings.

The full text of this ordinance may be examined, without charge, and copies may be obtained for a charge no greater than the cost thereof, at the Upper Moreland Township Building, during normal business hours, Monday through Friday, 8:30 AM until 4:30 PM, and at the offices of the newspaper.

The public is invited to attend and will be given an opportunity to provide comments regarding this ordinance. Persons with disabilities, wishing to attend the public meeting and requiring auxiliary aid, service, or other accommodations to participate, should contact the Upper Moreland Township Director of Administration & Human Resources at 215-695-3100.

MATTHEW C. CANDLAND
Township Manager

TO BE INSERTED in NEWSPAPER of local circulation on _____2022.
Please send proof of Publication to Upper Moreland Township, Attn.: Paul Purtell.

From: Kimberli Flanders
Sent: Tuesday, August 23, 2022 5:24 PM
To: Purtell, Paul
Cc: Candland, Matthew; James Faber
Subject: RE: Federal Realty

Paul,

We have reviewed the proposed draft text amendments, as well as the concept plans.

While the amendments tend to focus on land use and minimum building standards, our objective was to ensure that the amendments would not eliminate the goals of the Willow Grove area revitalization, in particular relative to the streetscape, as well as the pedestrian experience.

We offer the following comments and recommendations for consideration.:

Town Center versus Transit Management Overlay District:
Zoning Section 350-285, *Application of other zoning requirements*, under Transit Management Overlay District, reads, *"Any tract of land to be developed under this overlay district shall not be required to comply with any requirements of the underlying Town Center Zoning District, other than those specifically incorporated herein."*

We believe this wording was created relative to the Wawa development. If there are design elements or other requirements of the Town Center Districts that the Township desires relative to the Willow Grove Shopping Center redevelopment, this Section should be reviewed / updated (or possibly eliminated) as necessary.

Drive-through facilities:
The January 18, 2022, concept drawings, if implemented as depicted, will result in a proposed retail building set back from the road for the street frontage along Easton Road where the rear of buildings currently sit closer to Easton Road. Proposed Retail H is shown with drive-through facilities at this location. The proposed text amendments, if approved, would allow drive-through retail, currently excluded within the Town Center Districts. We note that a financial institution with drive-through facilities is currently a permitted use within the Transit Management Overlay District.

While a major intent of the Town Center District is to create buildings oriented toward public streets and parking located to the rear or sides of buildings, the Transit Management Overlay District requires design elements along the streetscape such as walls /piers and ornamental sidewalks as exist along the nearby Wawa and strip retail street frontage along Easton and York Roads. It appears that the proposed text amendments do not eliminate these requirements. While it is encouraged that redevelopment of Willow Grove continue to create the "town center" experience with buildings closer to the road, we believe it is possible to provide design elements as installed with the Wawa development to reflect and reinforce a cohesiveness of streetscape design within this corridor.

Pedestrian connections to adjacent development:
It is understood that the Township desires to improve the pedestrian experience at the library along the Park Avenue driveway. Enhanced crosswalks appear to be indicated on the January 18, 2022, concept drawings. Is there a need to incorporate additional "conditions" as part of the requirement to permit the increase in building height included within the text amendment proposal such as enhanced pedestrian crosswalk connections to the Township Building and library, as indicated on the concept drawings.

Interior Pedestrian connections within the development:
We note that the January 18, 2022, concept drawings appear to indicate enhanced crosswalks at the intersection of Willow Grove Lane and Salix Drive. It appears several enhanced crosswalks are intended throughout the proposed development. We believe these would meet the goals and design standards as currently presented in the Town Center zoning regulations.

Existing utilities:
The January 18, 2022, concept drawings appear to provide for a significant street tree element and appear to take into consideration the location of the existing above ground overhead utility lines along Park Avenue.

That said, however, is it feasible to place the above ground overhead utility lines along Park Avenue underground without sacrificing the ability to provide the intended streetscape elements?

Renderings:
The information provided in the January 18, 2022, concept drawings include design principles and design elements that align with the intent of the Town Center Districts and Willow Grove redevelopment.

It is understood that these concept drawings are subject to change. However, as part of this review of the proposed text amendments by the Township, we recommend that the Applicant clearly identify the streetscape elements that are intended to be constructed if this development moves forward.

Kimberli J. Flanders, R.L.A., LEED Green Associate
McCloskey and Faber, P.C.
Landscape Architects and Planners
831 Dekalb Pike
Blue Bell, PA 19422

Phone: 610-277-9200, X110
Direct Office Line (not mobile): 484-636-3979
Fax: 610-277-9203
email: kflanders@mcfpc.com
web: www.mcfpc.com

MONTGOMERY COUNTY
BOARD OF COMMISSIONERS

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MONTGOMERY COUNTY
PLANNING COMMISSION

MONTGOMERY COUNTY COURTHOUSE • PO BOX 311
NORRISTOWN, PA 19404-0311
610-278-3722 - FAX: 610-278-3941
WWW.MONTCOPA.ORG

SCOTT FRANCE, AICP
EXECUTIVE DIRECTOR

August 19, 2022

SUBJECT: MCPC Review of Proposed Amendments to the Town Center District
TO: Upper Moreland Township Community Development Committee
FROM: Claire Warner, Montgomery County Planning Commission

As requested, we have reviewed the proposed zoning ordinance amendments, filed by Federal Realty Investment Trust, to the TC-Town Center Zoning District. The proposed amendments would make a number of changes to the permitted uses and to the bonus provisions and conditions for conditional uses in the Town Center Districts, which would impact the site design, size, and building and streetscape design of mixed use, multifamily buildings.

We reviewed the proposed text amendments in tandem with the provided renderings to illustrate how the zoning text amendments could impact the site and surrounding Willow Grove area. The Montgomery County Planning Commission (MCPC) generally supports the proposed text amendments, as they are consistent with the goals of the future land use plan of *MONTCO2040*, the county's comprehensive plan.

Consistency with Upper Moreland Plans

The Upper Moreland Revitalization Plan envisioned improved pedestrian environment and connections in the Willow Grove Shopping Center to Easton Road. Additional revitalization goals include efficient and attractive design and layout of properties, a wider mix of land uses, intensified development on underutilized parcels, additional parking. In the UpperMoreland2040 Comprehensive Plan, downtown Willow Grove, York Road, and Easton Road were identified as high-priority areas for pedestrian safety improvements.

COMMENTS

Overall Site Plan

The proposed site plan appears to focus most of the commercial and pedestrian activity internally, away from the surrounding existing road network. Residential uses would also be developed along Park Avenue, as articulated in the text amendments and reviewed in the comments below. Overall, we feel that the township and applicant should consider which of the streets surrounding the development site should be activated and improved with streetscape enhancements. In addition, we suggest that the township and applicant consider if there is potential for buildings to be developed along Moreland Road, and how potential future buildings could be integrated into the site and surrounding area.

A. Easton Road. Historically, the back of buildings of the Willow Grove Shopping Center have faced Easton Road, creating a sidewalk that is inhospitable to people walking. In addition, stops for SEPTA routes 22 and 55 buses are located along Easton, as indicated on the applicant's renderings. Due to the prominence of Easton Road, we encourage the applicant and township to consider how Easton Road will be integrated into the development to create a more welcoming experience for people who are

walking along Easton Road or waiting for the bus. We understand that there may be delivery and loading needs that necessitate loading space located at the rear of the building. However, we suggest the applicant consider ways to screen the loading and trash area, and consider ways to improve the sidewalk and pedestrian environment along Easton Road with trees, bus shelters, seating, among other elements.

Activating the Streetscape

A. Park Avenue: Amendment to § 350-260.B(1). Park Avenue is currently lined with a mix of uses, including the Upper Moreland Public Library, Township Hall, Police Station, and limited commercial. Based on the renderings provided, a mixed-use building with residential units are proposed to be located on and fronting onto. Park Avenue. Townhouses and mid- and high-rise apartment buildings are currently permitted by conditional use. The proposal would amend the conditions of mid-or –high-rise apartment buildings to remove the requirement for 50% of the first floor of the building along certain roads be office or retail uses, and to the requirement that "none of the first floor frontage… be used for office or retail, provided that at least 25%" of the building be used for office or retail use (proposed § 350-260.B(1)(b)). In effect, this proposed change would permit the residential use to front onto the street and allow the commercial uses to be located on the proposed internal streets that are part of the overall development. The county is generally comfortable with this proposed change because we feel that residential uses would be appropriate for the scale of Park Ave. However, we believe that the issue is not so much about the amount of commercial, but how the streetscape is activated.

    1. Language issue: The term "that part of the building" is used to define building frontage three times in the amended Section 350-260.B(1). We feel that this proposed phrase is vague and unclear, and recommend that the applicant consider how to clarify and specify what section of the building is being referred to, such as by defining the length of the building, distance from the street, and other measureable features.

B. Streetscape Standards: Amendment to §350-265.E. Unique streetscape design that is integrated throughout the development helps to create a sense of place and can be designed to contribute to the development's livability. As part of the bonus provisions, the township currently permits a mid-or high-rise apartment building with at least 220 units which "is located on a lot with an aggregate frontage of 850 or more feet on York Road, Easton Road and/or Davisville Road" to deviate from the streetscape and green area standards contained in Section 350-275.G. (§ 350-265.E). The applicant is proposing that the this section be changed to "aggregate lot frontage of 150 feet or more…" which would allow the proposed development to be excluded from the streetscaping standards. We strongly encourage that the applicant and township coordinate on the streetscape and green area standards that are required in Section 350-275.G, to more clearly understand which standards the applicant is anticipating deviation from, and to determine if there are additional standards that the township could request of the applicant in substitution.

    1. Sidewalks Design. We suggest referencing the sidewalk design on the eastern side of Easton and York Roads for design ideas to complement the sidewalk, stone wall and fence, and other streetscape elements for a cohesive design through Willow Grove.

C. Building Design: Amendments to § 350-274.A. The development is required to adhere to the Article XXXIII Additional Design Standards for the Town Center (§ 350-274). The township requires that the "front facade of buildings shall be oriented towards streets and sidewalks" and that there be "an everyday public entrance in this front façade (§ 350-274-A(1)(a)). We encourage the applicant to ensure that there are provisions for primary entrances on road frontages. In the event of a residential entrance onto a public street, we recommend that the entrances be accentuated for visual interest.

1. Façade Articulation: Amendments to§ 350-274 (A)(5)(c). Architectural design of buildings should create visual interest and reduce the apparent scale of buildings to create a human-scale development. Facades should have a minimum amount of blank wall space and articulation or breaks. The applicant proposes to amend the requirements for the articulation of the facades of high rise residential apartment buildings that contain 250 units or more. The township's zoning currently requires that a continuous façade have a 2-inch offset in the façade every 20 feet. The proposal would increase that minimum distance to 25 feet for buildings with frontage along township roads and 35 feet for buildings not fronting onto township roads.

    a) The zoning current requires a 2-inch protruding break. For buildings with large facades, this protruding distance could have minimal impact. We recommend the applicant and township consider enhancing/increasing the required break. It is recommended that the breaks in the façade be a minimum depth of three feet.

2. Building Height: Amendments to § 350-265.B. The applicant has proposed to amend the maximum height that a mixed-use building can be with the addition of bonus provisions. The TC District currently permits a maximum of 65 feet, a 20-foot increase in total maximum (§ 350-265.B(1)). The proposal would permit mixed-use mid- or high-rise buildings that have at least 220 units to have a height of up to 85 feet, provided the height bonus conditions are met. The conditions that would have to be met in order to receive the additional heights would be amended, as well. When building height increases, there are impacts on the streetscape due to the overall scale of buildings. For this reason, special attention should be given to specific building design that support the integration of new buildings into the scale and character of the established built environment. We recommend considering how the bulk of the building would be mitigated.

    a) Stepback. The amendment would add the following provision: The height of the building where it immediately fronts on a public street shall not exceed 72 feet. (Proposed § 350-265.B(3)(d)). This proposed addition would create a 13-foot stepback for buildings along public streets, which we commend. However, a distance for the stepback is not defined. We suggest the applicant consider a stepback distance requirement of 8-12 feet. Additionally, we recommend that the 72-foot maximum height be required along all streets, including the proposed Willow Grove Lane and Salix Drive.

    b) The applicant may wish to consider additional ways to visually reduce the size and bulk of large buildings, such as the following:
        1) Conduct a shadow study showing the extent of shadows that would be cast by the building.
        2) Add building foundation landscaping to soften the view of the building mass.
        3) Add additional architectural features, such as balconies. The amendment would remove the following provisions: The building will have defining characteristics, such as a

clock tower, turret, or other feature deemed similar in nature by the governing body (§ 350-265.B(1)(b)).

c) The renderings illustrate buildings that are 6 stories. For clarity in the ordinance, we recommend including in the proposed language the maximum number of stories (for example: 85 feet, or 6 stories, whichever is lower).

D. Number of Buildings on a Lot: Amendments to § 350-281. Currently, a maximum of 3 buildings is permitted on the first 3 acres of a lot, plus 1 additional building for each 5 additional acres. The proposed amendment would increase the maximum number of buildings to 6, provided a development incorporates a mixed use building of residential and retail uses. We generally support this proposed increase in the maximum buildings on a lot, provided that the appropriate design standards are required.

Pedestrian Environment

A. Drive-through Sales: Amendments to § 350-261. Drive-through sales are currently prohibited in the Town Center Districts. The proposed amendment would add the following language to the prohibited uses section for drive-through sales: "...except for one such use in a Mixed-Use Town Center Development and only if such use can be demonstrated (to the reasonable satisfaction of the Commissioners and the Township Traffic Consultant) to provide adequate queuing for the use and a design for traffic flow around the use which does not disrupt the remainder of the traffic circulation within the Town Center Project" (§ 350-261). The proposed language would create a way for the development to include drive-through sales facilities. The Town Center District, and Willow Grove generally, is intended to be a pedestrian-oriented area. Drive-through sales could create potential conflicts with traffic in a busy area.

If the township supports the amendment to permit drive-through sales, we suggest that pedestrian safety measures are made, such as improved sidewalk and crosswalks. The proposed amendment appears to be exclusively concerned about queuing, without addressing site layout, design, and screening of the drive-through. Based on the renderings provided, the location of the proposed use with drive-through facilities would be located at the corner of Easton Road/York Road/611. To create a more walkable town center environment, we recommend that buildings be built up to the street, wide sidewalks be provided along all roads, and drive-through facilities be located at the side or rear of the building, rather than along Easton Road.

Please do not hesitate to contact me with any questions.

Sincerely,

Claire Warner, Senior Community Planner
cwarner@montcopa.org – 610-278-3755

TOWNSHIP of UPPER MORELAND

Montgomery County, Pennsylvania
117 Park Avenue, Willow Grove, PA 19090-3215
Telephone (215) 659-3100 / Fax (215) 659-7363

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Assistant Township Manager/ Director of Finance
ALEX H. LEVY
Township Treasurer
SEAN P. KILKENNY, ESQ.
Township Solicitor

Upper Moreland Township Board of Commissioners
Community Development Committee Meeting
September 19, 2022

Agenda Item: **Green Light Go Bid – N. York Rd.**

Recommended Action: Approve advertising the bid for traffic signal upgrades on N. York Rd.

Background/Analysis: The Township was awarded a Green Light Go grant in the amount of $147,760 to fund signalization upgrades at the following intersections along N. York Rd.

- Newington Rd.
- Mill/Warminster Rds.
- Great Britain/Former Benjamin Food
- Terwood/Fitzwatertown Rd.

Upgrades include:

- replace the existing loop detection with video detection
- replace existing pedestrian signals with countdown signals
- replace pushbutton with ADA pushbuttons with LED confirmation light.

Fiscal Impact/Source: $36,940 – 20% Township Match of $184,700 total project cost – to be funded from Traffic Signal Fund

Alternatives: The Township could hold off doing the work (and therefore eliminate the grant match cost us) or we could possibly reduce the number of signals to be upgraded, thus reducing the amount of the Township's match.

Attachments: Bid Advertisement

A. ADVERTISEMENT

Notice is hereby given that Upper Moreland Township will accept sealed proposals for the following:

TRAFFIC SIGNAL IMPROVEMENTS

At

Various Locations

within

Upper Moreland Township, Montgomery County, PA

Notice is hereby given that Upper Moreland Township will accept sealed proposals for the Traffic Signal Improvements at Various Locations within Upper Moreland Township, Montgomery County, PA. Bids will be accepted until 10:00 AM, October 6, 2022, via PennBid (http://PennBid.ProcureWare.com) only. Questions must be submitted via PennBid by September 29, 2022 at 5:00 PM.

Plans and specifications are available online at no charge via PennBid.

All proposals (bids) are to be accompanied by a bid bond or certified check in the amount of 10% of the total bid. The Township reserves the right to waive any minor informalities, irregularities or defects in the bid; or to reject any or all of the bids. The successful Bidder must comply with Pennsylvania Prevailing Wage Act.

All Bidders are required to establish proof of competency and responsibility, in accordance with 67 PA Code Chapter 457, Regulations Governing Prequalification of Prospective Bidders and PennDOT Form 408/2020, as supplemented and amended, Section 102. Subcontractors must prequalify in the same manner, if listed in the proposal or if they subsequently undertake the partial or total construction of one or more items of work. All Bidders and Subcontractors must be PennDOT prequalified.

Prevailing Wage determinations are in effect for this project as set forth in the Bid Documents.

No bid may be withdrawn within sixty (60) days after the opening thereof, during which time the Township may review the bids and investigate bidder qualifications.

Matthew Candland
Upper Moreland Township

TOWNSHIP of UPPER MORELAND

Montgomery County, Pennsylvania
117 Park Avenue, Willow Grove, PA 19090-3215
Telephone (215) 659-3100 / Fax (215) 659-7363

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Township Solicitor

Upper Moreland Township Board of Commissioners
Community Development Committee Meeting
September 19, 2022

Agenda Item: **Draining Problem at 2603 Parkside Rd. - Discussion**

Recommended Action: No specific recommendation at this time.

Background/Analysis: A resident, living at 2603 Parkside Rd., recently expressed concern to Commissioner Spearing about a drain pipe providing drainage from Parkside Rd., in front of their home. The drainage pipe does not appear to be functioning properly. There is does not seem to be adequate fall for the water to sufficiently drain, thus causing the area to accumulate silt and further hinder drainage.

Jim Hersh, Township Engineer, was made aware of the situation. He recommended that he shoot some grades to determine what the specific problem is and the best way to address it.

Fiscal Impact/Source: Unknown at this time. Jim Hersh will have a proposed solution and hopefully cost estimate at the CDC meeting.

Alternatives: Jim Hersh will present the alternatives at the CDC meeting.

Attachments: None

Upper Moreland
Township
117 Park Avenue
Willow Grove, PA
19090

Commissioners Report

For the period of: 2022-08-01 to 2022-08-31 23:59:59

Date Printed: 09/01/2022

PERMITS

Type	# of Apps. Created	# of Permits Issued	Estm. Cost of Issued	Revenue Collected
Grading	2	2	$177,645.00	$49.00
Bulk Pick Up	46	46	$0.00	$1,095.00
Trailer	3	2	$0.00	$80.00
Plumbing	15	15	$534,867.00	$3,688.50
Garage Sale	0	0	$0.00	$0.00
Public Works	13	11	$2,500.00	$299.00
Building	48	47	$5,302,876.03	$59,632.50
Commercial Zoning Use	5	4	$0.00	$300.00
Fire	4	33	$252,526.25	$6,855.00
Miscellaneous	0	1	$0.00	$100.00
Holding Tank	0	0	$0.00	$0.00
Sign	3	2	$21,900.00	$380.00
Well	0	0	$0.00	$0.00
Electrical	19	21	$498,868.72	$12,893.00
Mechanical	12	13	$476,442.00	$3,248.50
Totals:	**170**	**197**	**$7,267,625.00**	**$88,620.50**

CONTRACTORS

Commercial

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	1	0	$75.00
Mechanical Contractor	1	0	$75.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	5	3	$500.00
General Contractor	10	1	$825.00
Sign Contractor	1	0	$75.00
General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	2	0	$150.00
Totals:	**20**	**4**	**$1,700.00**

Residential

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	0	0	$0.00
Mechanical Contractor	0	0	$0.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	0	0	$0.00
General Contractor	0	0	$0.00
Sign Contractor	0	0	$0.00
General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	0	0	$0.00
Totals:	**0**	**0**	**$0.00**

Home Improvement

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	0	0	$0.00
Mechanical Contractor	1	0	$0.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	0	0	$0.00
General Contractor	3	0	$0.00
Sign Contractor	0	0	$0.00

General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	2	0	$0.00
Totals:	**6**	**0**	**$0.00**

Uncategorized Subtype

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	0	0	$0.00
Mechanical Contractor	0	0	$0.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	0	0	$0.00
General Contractor	0	0	$0.00
Sign Contractor	0	0	$0.00
General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	0	0	$0.00
Totals:	**0**	**0**	**$0.00**

PERMIT INSPECTIONS

Total Inspections:	**122**

LICENSING

Type	# of New Licenses	# of Renewals	Revenue Collected
Home Occupancy Zoning Use	4	0	$200.00
Amusement License	0	0	$0.00
Sandwich Sign	0	0	$0.00
Massage	0	0	$0.00
Billboard	0	0	$0.00
Recreational Trailer	0	3	$15.00
Totals:	**4**	**3**	**$215.00**

LAND DEVELOPMENT

Type	# of Apps. Created	Revenue Collected
Zoning Change	0	$0.00
Conditional Use	1	$1,000.00
Subdivision	1	$175.00
Land Development	1	$350.00
Public Hearing	4	$2,300.00
Totals:	**7**	**$3,825.00**

CODE ENFORCEMENT

Type	# of Complaints
Trash and Debris	1
Misc	6
Exterior Maintenance	3
High Grass	2
Work Without Permit	4
Totals:	**16**

CASHIERING

Type	# of Transactions	Revenue Collected
Total Transactions	0	$0.00
Totals:	**0**	**$0.00**

Upper Moreland
Township
117 Park Avenue
Willow Grove, PA
19090

Commissioners Report

For the period of: 2022-08-01 to 2022-08-31 23:59:59

Date Printed: 09/01/2022

OPEN RECORDS

Type	# of Requests	Revenue Collected
Public Record Request	0	$0.00
Totals:	**0**	**$0.00**

Total Revenue Collected: $94,360.50

Upper Moreland Township
117 Park Avenue
Willow Grove, PA 19090

Commissioners Report

For the period of: 2021-08-01 to 2021-08-31 23:59:59

Date Printed: 09/01/2022

PERMITS

Type	# of Apps. Created	# of Permits Issued	Estm. Cost of Issued	Revenue Collected
Grading	0	2	$121,837.00	$49.00
Bulk Pick Up	28	28	$0.00	$624.00
Trailer	3	4	$0.00	$820.00
Plumbing	10	10	$101,423.00	$830.00
Garage Sale	2	2	$0.00	$20.00
Public Works	4	4	$2,520.00	$114.00
Building	53	59	$1,186,057.15	$22,925.50
Commercial Zoning Use	4	4	$0.00	$300.00
Fire	3	51	$8,955.00	$3,589.00
Miscellaneous	2	1	$0.00	$30.00
Holding Tank	0	0	$0.00	$0.00
Sign	2	2	$15,500.00	$160.00
Well	0	0	$0.00	$0.00
Electrical	16	19	$631,468.00	$16,221.00
Mechanical	8	13	$149,512.00	$1,764.50
Totals:	**135**	**199**	**$2,217,272.15**	**$47,447.00**

CONTRACTORS

Commercial

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	0	0	$0.00
Mechanical Contractor	1	0	$75.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	0	0	$0.00
General Contractor	5	2	$525.00
Sign Contractor	1	0	$75.00
General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	1	1	$150.00
Totals:	**8**	**3**	**$825.00**

Residential

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	0	0	$0.00
Mechanical Contractor	0	0	$0.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	0	0	$0.00
General Contractor	0	0	$0.00
Sign Contractor	0	0	$0.00
General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	0	0	$0.00
Totals:	**0**	**0**	**$0.00**

Home Improvement

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	0	0	$0.00
Mechanical Contractor	1	0	$0.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	0	0	$0.00
General Contractor	7	0	$0.00
Sign Contractor	0	0	$0.00

General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	0	0	$0.00
Totals:	**8**	**0**	**$0.00**

Uncategorized Subtype

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	0	0	$0.00
Mechanical Contractor	0	0	$0.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	0	0	$0.00
General Contractor	0	0	$0.00
Sign Contractor	0	0	$0.00
General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	0	0	$0.00
Totals:	**0**	**0**	**$0.00**

PERMIT INSPECTIONS

Total Inspections:	**139**

LICENSING

Type	# of New Licenses	# of Renewals	Revenue Collected
Home Occupancy Zoning Use	13	8	$1,050.00
Amusement License	0	0	$0.00
Sandwich Sign	0	0	$0.00
Massage	0	0	$0.00
Billboard	0	0	$0.00
Recreational Trailer	0	0	$0.00
Totals:	**13**	**8**	**$1,050.00**

LAND DEVELOPMENT

Type	# of Apps. Created	Revenue Collected
Zoning Change	0	$0.00
Conditional Use	0	$0.00
Subdivision	0	$0.00
Land Development	0	$0.00
Public Hearing	1	$400.00
Totals:	**1**	**$400.00**

CODE ENFORCEMENT

Type	# of Complaints
Trash and Debris	1
Misc	6
Exterior Maintenance	4
High Grass	14
Work Without Permit	6
Totals:	**31**

CASHIERING

Type	# of Transactions	Revenue Collected
Total Transactions	0	$0.00
Totals:	**0**	**$0.00**

OPEN RECORDS

Type	# of Requests	Revenue Collected
Public Record Request	0	$0.00
Totals:	**0**	**$0.00**

Total Revenue Collected: $49,722.00

Upper Moreland Township
117 Park Avenue
Willow Grove, PA 19090

Commissioners Report

For the period of: 2022-07-01 to 2022-07-31 23:59:59

Date Printed: 08/04/2022

PERMITS

Type	# of Apps. Created	# of Permits Issued	Estm. Cost of Issued	Revenue Collected
Grading	1	2	$47,500.00	$134.50
Bulk Pick Up	51	51	$0.00	$1,066.00
Trailer	2	2	$0.00	$80.00
Plumbing	16	20	$1,097,604.50	$8,147.00
Garage Sale	4	4	$0.00	$40.00
Public Works	18	17	$3,595.00	$523.00
Building	50	62	$7,556,134.59	$36,950.00
Commercial Zoning Use	7	6	$0.00	$450.00
Fire	60	39	$346,113.75	$9,467.50
Miscellaneous	2	0	$0.00	$0.00
Holding Tank	0	0	$0.00	$0.00
Sign	1	1	$2,600.00	$270.00
Well	0	0	$0.00	$0.00
Electrical	18	25	$932,254.00	$23,683.50
Mechanical	12	12	$778,442.72	$4,974.00
Totals:	**242**	**241**	**$10,764,244.56**	**$85,785.50**

CONTRACTORS

Commercial

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	1	0	$75.00
Mechanical Contractor	0	0	$0.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	6	1	$525.00
General Contractor	1	3	$300.00
Sign Contractor	0	0	$0.00
General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	0	0	$0.00
Totals:	**8**	**4**	**$900.00**

Residential

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	0	0	$0.00
Mechanical Contractor	0	0	$0.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	0	0	$0.00
General Contractor	0	0	$0.00
Sign Contractor	0	0	$0.00
General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	0	0	$0.00
Totals:	**0**	**0**	**$0.00**

Home Improvement

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	0	0	$0.00
Mechanical Contractor	1	0	$0.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	2	0	$150.00
General Contractor	5	0	$0.00
Sign Contractor	0	0	$0.00

General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	2	0	$0.00
Totals:	**10**	**0**	**$150.00**

Uncategorized Subtype

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	0	0	$0.00
Mechanical Contractor	0	0	$0.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	0	0	$0.00
General Contractor	0	0	$0.00
Sign Contractor	0	0	$0.00
General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	0	0	$0.00
Totals:	**0**	**0**	**$0.00**

PERMIT INSPECTIONS

Total Inspections:	**115**

LICENSING

Type	# of New Licenses	# of Renewals	Revenue Collected
Home Occupancy Zoning Use	1	5	$300.00
Amusement License	1	0	$200.00
Sandwich Sign	0	0	$0.00
Massage	0	0	$0.00
Billboard	0	0	$0.00
Recreational Trailer	0	0	$0.00
Totals:	**2**	**5**	**$500.00**

LAND DEVELOPMENT

Type	# of Apps. Created	Revenue Collected
Zoning Change	0	$0.00
Conditional Use	0	$0.00
Subdivision	0	$0.00
Land Development	0	$0.00
Public Hearing	4	$2,300.00
Totals:	**4**	**$2,300.00**

CODE ENFORCEMENT

Type	# of Complaints
Trash and Debris	3
Misc	3
Exterior Maintenance	2
High Grass	6
Work Without Permit	3
Totals:	**17**

CASHIERING

Type	# of Transactions	Revenue Collected
Total Transactions	0	$0.00
Totals:	**0**	**$0.00**

Upper Moreland
Township
117 Park Avenue
Willow Grove, PA
19090

Commissioners Report

For the period of: 2022-07-01 to 2022-07-31 23:59:59

Date Printed: 08/04/2022

OPEN RECORDS

Type	# of Requests	Revenue Collected
Public Record Request	0	$0.00
Totals:	**0**	**$0.00**

Total Revenue Collected: $89,635.50

Upper Moreland Township
117 Park Avenue
Willow Grove, PA
19090

Commissioners Report

For the period of: 2021-07-01 to 2021-07-31 23:59:59

Date Printed: 08/04/2022

PERMITS

Type	# of Apps. Created	# of Permits Issued	Estm. Cost of Issued	Revenue Collected
Grading	2	2	$891,107.90	$264.00
Bulk Pick Up	51	51	$0.00	$1,180.00
Trailer	6	5	$0.00	$180.00
Plumbing	9	11	$70,071.00	$959.50
Garage Sale	1	1	$0.00	$10.00
Public Works	2	2	$1,400.00	$60.00
Building	70	57	$1,590,021.97	$23,568.50
Commercial Zoning Use	8	4	$0.00	$300.00
Fire	56	15	$62,800.00	$2,069.00
Miscellaneous	0	0	$0.00	$0.00
Holding Tank	0	0	$0.00	$0.00
Sign	2	3	$100,000.00	$3,080.00
Well	0	0	$0.00	$0.00
Electrical	20	20	$102,780.00	$2,815.00
Mechanical	7	12	$118,411.14	$1,749.00
Totals:	**234**	**183**	**$2,936,592.01**	**$36,235.00**

CONTRACTORS

Commercial

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	0	1	$75.00
Mechanical Contractor	1	0	$75.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	1	1	$150.00
General Contractor	13	5	$1,350.00
Sign Contractor	0	0	$0.00
General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	4	2	$450.00
Totals:	**19**	**9**	**$2,100.00**

Residential

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	0	0	$0.00
Mechanical Contractor	0	0	$0.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	0	0	$0.00
General Contractor	0	0	$0.00
Sign Contractor	0	0	$0.00
General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	0	0	$0.00
Totals:	**0**	**0**	**$0.00**

Home Improvement

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	0	0	$0.00
Mechanical Contractor	1	0	$0.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	0	0	$0.00
General Contractor	9	0	$75.00
Sign Contractor	0	0	$0.00

General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	1	0	$0.00
Totals:	**11**	**0**	**$75.00**

Uncategorized Subtype

Type	# of New Contractors	# of Renewals	Revenue Collected
Fire Sprinkler Contractor	0	0	$0.00
Mechanical Contractor	0	0	$0.00
Demolition Contractor	0	0	$0.00
House Moving Contractor	0	0	$0.00
Plumbing Contractor	0	0	$0.00
General Contractor	0	0	$0.00
Sign Contractor	0	0	$0.00
General Contractor - Under $30,000	0	0	$0.00
Electrical Contractor	0	0	$0.00
Totals:	**0**	**0**	**$0.00**

PERMIT INSPECTIONS

Total Inspections:	**128**

LICENSING

Type	# of New Licenses	# of Renewals	Revenue Collected
Home Occupancy Zoning Use	0	0	$0.00
Amusement License	0	0	$0.00
Sandwich Sign	0	0	$0.00
Massage	0	0	$0.00
Billboard	0	0	$0.00
Recreational Trailer	4	0	$20.00
Totals:	**4**	**0**	**$20.00**

LAND DEVELOPMENT

Type	# of Apps. Created	Revenue Collected
Zoning Change	0	$0.00
Conditional Use	0	$0.00
Subdivision	0	$0.00
Land Development	0	$0.00
Public Hearing	4	$1,950.00
Totals:	**4**	**$1,950.00**

CODE ENFORCEMENT

Type	# of Complaints
Trash and Debris	1
Misc	6
Exterior Maintenance	8
High Grass	3
Work Without Permit	5
Totals:	**23**

CASHIERING

Type	# of Transactions	Revenue Collected
Total Transactions	0	$0.00
Totals:	**0**	**$0.00**

Upper Moreland
Township
117 Park Avenue
Willow Grove, PA
19090

Commissioners Report

For the period of: 2021-07-01 to 2021-07-31 23:59:59

Date Printed: 08/04/2022

OPEN RECORDS

Type	# of Requests	Revenue Collected
Public Record Request	0	$0.00
Totals:	**0**	**$0.00**

Total Revenue Collected: $40,380.00

To: Public Works Committee

From: David Elsier, Director of Public Works

Date July & August 2022

Re: **UMPW DEPARTMENTAL REPORT**



PUBLIC WORKS DIRECTOR'S NOTES

- Oversaw all day-to-day operations of the Public Works Department
- Repaired potholes throughout the Township.
- Reported street lights that are not working.
- Contacted Penn Dot about pothole concerns on all state roads within the Township.
- Reported traffic and street lights that needed attention.
- Responded to e-mails and phone calls from residents with questions or problems.
- Completed various reports and schedules to help with operations of the Public Works Department.
- Attended a zoom meeting in regards to the Willow Grove interchange improvements
- Paving was completed on the following roads

STREET	MEASUREMENT	SQ. YDS.
Nash (Moreland SR63 – Overlook)	2.784' x 30'	9,280
Juniper (Parkside – Broadway)	400' x 30'	1,333
Sunset (York SR263 – Dead End)	1,010' x 30'	3,367
Wyandotte (SR611 – Dead End)	3,090' x 30'	10,300
Country Wood (SR2009-Pleasant Hill)	929' x 30'	3,097
Damian (SR2042 – SR2042)	2,880' x 30'	9,600
Elm (SR2026 – Broadway)	807' x 30'	2,690
St. Dunstan (Bonnett-Burbridge)	1,188' x 30'	3,960
Green Wood (SR2033 – Greyhorse)	1,104' x 40'	4,907
Morgan Mill (SR2033 – Ball)	784' x 30'	2,613
Red Barn (Greyhorse – Deer Run)	1,530' x 30'	5,100
Frontier (SR2009 – Pioneer)	**1,953 x 30'**	**6,510**
Lisayne (Country Wood – Orangemans)	**616' x 30'**	**2,053**
Preston (Corinthian – Manor)	**3,567' x 30'**	**11,890**
Willard (Exton – Stewart)	**1,598' x 30'**	**5,327**

- **Vehicle Maintenance** - Township mechanics maintained all Township vehicles and equipment.

- **Storm Water Maintenance** - Township staff continues to inspect and repair all storm water inlets.

SANITATION DIVISION
July 2022

During the month of July 2022, our Sanitation Division picked up 541 tons of compacted trash.

Since the last report period we had 21 bulk pick-ups. For the same period in 2021 we collected 24 bulk items

We collected 125 tons of yard waste since the last report period. For the same period in 2021, we collected 140 tons of yard waste.

We collected 28 electronic items (E-cycling) since the last report period. For the same period in 2021, we collected 25 electronic items.

SANITATION DIVISION
August 2022

During the month of August 2022, our Sanitation Division picked up 572 tons of compacted trash.

Since the last report period we had 18 bulk pick-ups. For the same period in 2021 we collected 16 bulk items

We collected 156 tons of yard waste since the last report period. For the same period in 2021, we collected 178 tons of yard waste.

We collected 18 electronic items (E-cycling) since the last report period. For the same period in 2021, we collected 13 electronic items.

Public Works Department
August 2022

Summary of materials handled by Sanitation Division

(in tons)

Single Stream	175	
Curbside Yard Waste	156	
Total Recycling Tonnage	331	
Trash Tonnage	572	
Tipping Fee Cost Avoidance	$18,635	$58.58
Cost of Single Stream	$ 6,688.00	*
Percent of Waste Recycled	37%	

Rebate received

Materials	Single Stream	Yard Wate	Trash	% Recycled
2022	175	156	572	37%
2021	179	178	570	39%

	2022	2021
Bulk Metal Items	18	16
E-Cycling Items	18	13

Public Works Department
July 2022

Summary of materials handled by Sanitation Division

(in tons)

Single Stream		170	
Curbside Yard Waste		125	
Total Recycling Tonnage		295	
Trash Tonnage		541	
Tipping Fee Cost Avoidance		$16,609	$58.58
Cost of Single Stream	$	748.00	*
Percent of Waste Recycled		35%	

Rebate received

Materials	Single Stream	Yard Wate	Trash	% Recycled
2022	170	125	541	35%
2021	196	140	619	35%

	2022	2021
Bulk Metal Items	18	16
E-Cycling Items	18	13

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

Upper Moreland Township
September 2022 Engineer's Report

PROJECT	WORK PERFORMED LAST PERIOD (July18th to September 19th)	WORK TO BE PERFORMED THIS PERIOD (September 19th to October 10th)
GENERAL TOWNSHIP PROJECTS		
1. NPDES – MS4 Reporting	• Begin work on Annual Report for DEP submission.	• Prepare and submit Annual Report to DEP. Due September 30th
2. Misc. Consulting Services	• No work performed this period.	• Monitor project status and perform work as necessary.
3. Fair Oaks Basin	• Final as-built plan for submission to UMHJSA and MCCD to closeout NPDES Permit.	• Monitor project status and perform work as necessary. • **Project is in 18-month maintenance period which is set to end on June 1, 2023.**
4. Mason's Mill Park	• No work performed this period.	• Project is in 18-month maintenance period.
5. Library ADA Improvements	• No work performed this period.	• Monitor project status and perform work as necessary.
6. Woodlawn School Demolition	• Payment Request #2 • Coordinate Change Order #2 for removal of encountered soil beneath UST.	• Monitor grass growth for final payment and begin 18-month maintenance period once site is acceptable.
7. Farmstead Park	• Begin NPDES plan submission	• Make initial NPDES submission and begin work on specs for public bid and parking lot paving.
PRIVATE DEVELOPMENT PROJECTS		
1. Fairhill Commons	• Construction observation	• Monitor project status and perform work as needed
2. 2700 Turnpike Dr. (Acme Box)	• Construction observation.	• Monitor project status and perform work as needed.
3. Jaguar Land Rover Dealership	• No work performed this period.	• Monitor project status and perform work as needed.

PROJECT	WORK PERFORMED LAST PERIOD (July18th to September 19th)	WORK TO BE PERFORMED THIS PERIOD (September 19th to October 10th)
4. 28 N. York Road	• Construction Observation	• Coordinate final grading observation.
5. Federation Housing (432-512 Davisville Road)	• Construction observation	• Monitor project status and perform work as needed.
6. 2255 Wyandotte Road	• No work performed this period.	• Monitor project and perform work as needed.
7. 10-170 Park Ave (Federal Realty - Grocery Store & Marshals LD Waiver)	• Construction observation	• Monitor project and perform work as needed.
8. Aqua Parking Lot Expansion (Computer Ave)	• No work performed this period.	• Move project to 18-month maintenance period upon completion of punch list items and coordination with M&F.
9. Federal Realty – Retail Pad Building (10-170 Park Avenue)	• No work performed this period.	• Setup preconstruction meeting upon request from Applicant and confirmation of completed development agreement documents.
10. 4205 Maryland Road Appts	• No work performed this period	• Coordinate project closeout and end of maintenance period.
11. Lightbridge Academy	• No work performed this period	• Coordinate project closeout and end of maintenance period.
12. 2955 Terwood Road	• Review land development submission	• Project going to ZHB for variance related to floodplain.
13. 3827 Betz Road	• Review revised subdivision plan	• Finalize & issue check set review. Project received conditional LD approval on 7/11. Work with Applicant to move plan towards recording.
14. Chipotle (Marketplace @ HV)	• No work performed this period	• Review revised plan submission
15. Olive Garden (Brick House Tavern Redevelopment)	• Review revised plan submission.	• Project is on CDC Agenda for 9/19.

McCloskey & Faber, P.C.
Landscape Architecture • Land Planning • Graphic Design

Date: **September 12, 2022** (prior report dated 8/3/2022)

Subject: **Township Landscape Architect's Monthly Status Report**

Project: **Upper Moreland Township, Montgomery County, PA**
M&F Project No. 215

From: **James R. Faber, ASLA**
Kimberli J. Flanders, ASLA

The following is a summary of our work during the previous month and pending work that we anticipate in the coming months. Developments with no activity for the previous months and/or are not on-going are included in our "Township Landscape Architect – Application Reviews and Field Work Schedule" spreadsheet (unless otherwise directed).

A. Landscape Architectural Plan and Field Reviews:

1. 2290 Computer Avenue (Aqua PA)

   a. General coordination with Township Engineer regarding Escrow Release #1.

2. 4121 Blair Mill Road Minor Subdivision

   a. Receive and review Arborist report regarding existing trees along Blair Mill Road.

3. 2402 Easton Road (Olive Garden)

   a. Receive revised land development submission.

   b. Prepare landscape design review (in progress).

4. 2300 Computer Avenue (Executive Mews) Sketch Plan

   a. Receive new Sketch Plan Submission.

   b. Visit site on August 26, 2022, to observe existing conditions.

   c. Prepare review of plan relative to the ability to meet minimum Landscape requirements (in progress).

831 Dekalb Pike Blue Bell, PA 19422-1271 (610) 277 9200, x102 FAX (610) 277 9203
EMAIL: jfaber@mcfpc.com WEBSITE: www.mcfpc.com

5. 1740 County Line Road

   a. Receive new land development plan submission; General coordination regarding same.

   b. Review correspondence related to application (Zoning Hearing Board decision).

   c. Review available online aerial and street photography.

   d. Prepare landscape design review (in progress).

6. Willow Grove Shopping Center – Zoning Text Amendment

   a. Receive concept plan and renderings; General coordination regarding same.

   b. Review proposed Zoning Text Amendment; Prepare and issue written comments to draft text amendment via email on August 23, 2022.

7. 2425 Blair Mill Road

   a. Prepare for and attend Pre-construction meeting at site on August 26, 2022.

8. 2321 Blair Mill Road (Lightbridge Academy)

   a. Prepare for and attend site visit and meeting on August 3, 2022 with Landscape Contractor to observe installed landscaping (follow up to July 13, 2022 punch list).

   b. Prepare and issue End of Guarantee Landscape Review letter on August 4, 2022.

   c. Project Complete.

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Issue Date: September 12, 2022

UPPER MORELAND TOWNSHIP - TOWNSHIP LANDSCAPE ARCHITECT
APPLICATION REVIEWS AND FIELD WORK SCHEDULE
M&F No. 215

Project Name and Address	Landscape Plan Review/Approval Date	Site Visit and/or Tree Count	Pre - Construction Meeting	Tree Protection Fence Review	Most Recent Landscape Install. Review	Most Recent Escrow Release Review	Insp. to Begin 18-Mth Guarantee Period	End of Guarantee Period		Status
								Date Due	Insp. Letter	
Landscape Plan Reviews in Progress or Not Approved										
1130 Easton Road - Pad site LD 15-28	LPR3 3/9/16	7/23/2015 & 8/4/2015								Development staff meeting: August 18, 2015 [Await revised plan submission (technical plan comments)]
Willow Grove Shopping Center Marshalls	LPR2 02/24/22									[Await plan resubmission]
Willow Grove Shopping Center Pad Site 102-170 Park Avenue	LPR2 6/8/22									Virtual Twp Staff / Consultant meetings 12/13/21 and 12/15/21 Development staff meeting: 12/21/21 [Await plan resubmission]
Willow Grove Shopping Center Phase 3 Concept Drawings Zoning Text Amendment	Email comments 8/23/22									
3827 Betz Road Minor Subdivision	LPR2 7/21/22	5/3/22								[Await plan resubmission]
2010 County Line Road - Chipotle Marketplace at Huntingdon Valley	LPR1 6/23/22	6/7/22								Development Staff meeting: 6/30/22 [Await plan resubmission]
2402 Easton Road - Olive Garden	LPR2 9/12/22	6/30/22								Development Staff meeting: 7/7/22 [Await plan resubmission]
2300 Computer Avenue - Sketch Plan Executive Mews property	LPR1 9/12/22	8/26/22								
1740 County Line Road	LPR1 9/12/22									[Await plan resubmission]

Project Name and Address	Landscape Plan Review/Approval Date	Site Visit and/or Tree Count	Pre - Construction Meeting	Tree Protection Fence Review	Most Recent Landscape Install. Review	Most Recent Escrow Release Review	Insp. to Begin 18-Mth Guarantee Period	End of Guarantee Period		Status
								Date Due	Insp. Letter	
Landscape Plan Approved - Awaiting Construction										
240 Fitzwatertown Road (Malvern Inst) (Amended Phase II of Willow Crest Manor) LD 16-23	LPR2 6/16/17	5/17/16								Development Staff meeting: 5/20/16; Waiver review memo: 7/7/16; Email review of technical plan comments: 7/5/17 [Await formal response to technical plan comments - reviewed informally]
Project Under Construction - Landscape Installation NOT Approved										
2300 Easton Road - Verizon store	LPR3 10/24/2016	9/1/16	12/21/16 KJF	n/a	6/12/19					[Await final request for escrow release associated with landscape installation.]
900 S. York Road - Jaguar Land Rover Waiver of land development	LPR4 8/26/19		9/25/19		Ph 12/4/20 2/19/20 Ph 2 4/8/21 Ph 1&2: 6/16/21		8/18/21			[Await final request for escrow release associated with landscape installation.]
28 N. York Road - Land Development Martin Harrison	LPR2 01/27/20	11/7/18	9/11/20 KJF		**ACTIVE**					[Review installation of required landscaping]
3195 Pennypack Road - Grading Permit Plan	LPR1 01/27/20	Tree count by Arborist	9/1/20 KJF	9/17/20	6/9/22 **ACTIVE**					Replacement trees installed, await further direction
2700 Turnpike Drive - Acme Corrugated Box	LPR4 3/19/20	12/12/18	10/27/20 KJF	11/25/20	7/8/2022 (partial) **ACTIVE**					[Await further installation of required landscaping - commenced in April 2022]
Willow Grove Shopping Center - Tenant Fitout Federal Realty	LPR2 4/23/21	10/2/20	3/30/21 KJF		**ACTIVE**					Review of OPC: 2/22/21 [Await review of planting design in easements by each governing jurisdiction] [Await review of installed landscaping]
2255 Wyandotte Road	LPR3 5/6/2021	1/30/20	6/29/21 KJF	8/17/21 8/25/21	10/21/21	4/5/22				LS pre-install meeting 8/25/21 [Follow up 4/5/22 site visit]
432-514 Davisville Road **Federation Housing**	LPR4 4/27/21	10/9/20	8/17/21		**ACTIVE**					Pre-submission meeting: 8/10/20 Development staff meeting: 10/15/20 Fee-in-lieu / Tree deficiency memo: 11/19/20 [Await installation of landscaping anticipated Fall 2022]
2290 Computer Avenue Aqua PA	LPR2 5/25/21	Online photos	9/22/21 KJF	9/22/21	5/31/22 **ACTIVE**					Development staff meeting: 3/23/21 [Follow up from 5/31/22 punch list]

Project Name and Address	Landscape Plan Review/Approval Date	Site Visit and/or Tree Count	Pre - Construction Meeting	Tree Protection Fence Review	Most Recent Landscape Install. Review	Most Recent Escrow Release Review	Insp. to Begin 18-Mth Guarantee Period	End of Guarantee Period		Status
								Date Due	Insp. Letter	
551 N. York Road and 230 Fairhill St. Fairhill Commons	CU Review 11/25/19 LPR5 04/21/21	3/5/2019 Site visit 9/5/19 Tree count	11/5/21 KJF							Phone conference (Conditional Use): 3/26/19 Development staff meeting: 8/28/19 Development pre-submission meeting: 1/30/20 Virtual Development coordination meeting: 5/13/20 [Await installation of landscaping anticipated Spring 2023]
1150 Easton Road - parking expansion Urban Air Administrative Plan review	Memo 8/18/21	5/12/21	11/4/21 KJF		**ACTIVE**					[Await landscape installation]
2425 Blair Mill Road	LPR2 7/1322	5/2/22	8/26/22 KJF		**ACTIVE**					[Await installation of required landscaping]
Project Under Guarantee - Landscape Installation Approved - in Guarantee Period										
End of Guarantee Inspection Performed - Landscape Issues Remain										
2901 Blair Mill Road (Blair Mill TH), Willow Crossing *LD-06-7* Formerly Sabia Townhouses (Builder: Ed Moser)	10/3/12 Amended plan review	5/1/06	7/15/11		10/30/15 email		12/28/15	**6/16/17**	5/30/17 email	[Revisit site upon completion of punch list items.]
2440 Maryland Road (Fairfield Inn) Ajesh Patel *LD14-2*	LPR4 10/17/14	1/16/14	2/17/15	3/19/15	5/27/16	12/4/15		**12/1/17** G&A ltr 6/23/16	10/11/17	[Revisit site upon completion of punch list items.]

McCloskey & Faber, P.C.
Landscape Architecture • Land Planning • Graphic Design

Date: **August 03, 2022** (prior report dated 7/8/2022)

Subject: **Township Landscape Architect's Monthly Status Report**

Project: **Upper Moreland Township, Montgomery County, PA**
M&F Project No. 215

From: **James R. Faber, ASLA**
Kimberli J. Flanders, ASLA

The following is a summary of our work during the previous month and pending work that we anticipate in the coming months. Developments with no activity for the previous months and/or are not on-going are included in our "Township Landscape Architect – Application Reviews and Field Work Schedule" spreadsheet (unless otherwise directed).

A. Landscape Architectural Plan and Field Reviews:

1. 2010 County Line Road (Chipotle) Marketplace at Huntingdon Valley

   a. Site visit and meeting with Owner's representatives on July 12, 2022, to discuss tree replacement locations.

   b. General coordination with Township Director of Code Enforcement regarding submitted waiver requests.

2. 2402 Easton Road (Olive Garden)

   a. Prepare and issue 1st Landscape Plan review letter on July 1, 2022.

   b. Prepare for and attend virtual development staff meeting on July 7, 2022.

   c. General coordination and follow up from meeting; Prepare and issue amended 1st Landscape Plan Review on July 8, 2022.

3. 3827 Betz Road – Minor Subdivision Plan

   a. Prepare and issue 2nd Landscape Plan Review on July 21, 2022.

4. 2425 Blair Mill Road

   a. Prepare and issue 2nd Landscape Plan Review on July 13, 2022.

5. 2321 Blair Mill Road (Lightbridge Academy)

   a. Visit site on July 13, 2022, to observe installed landscaping as a follow up to November 2021 site visit.

   b. Prepare revised field observation photo memo report and landscape plan markup punch list and issue on July 15, 2022.

   c. **PENDING:** Follow up site visit from July 15, 2022, punch list is scheduled for August 3rd.

6. 2700 Turnpike Drive (ACME Box)

   a. Prepare for and attend site meeting on July 8, 2022, with Landscape Contractor to review punch list items and discuss action plan (follow up from June 9, 2022, site visit).

   b. Prepare and issue revised Landscape plan markup punchlist on July 8, 2022, based on site observations.

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Issue Date: August 3, 2022

UPPER MORELAND TOWNSHIP - TOWNSHIP LANDSCAPE ARCHITECT
APPLICATION REVIEWS AND FIELD WORK SCHEDULE
M&F No. 215

Project Name and Address	Landscape Plan Review/Approval Date	Site Visit and/or Tree Count	Pre - Construction Meeting	Tree Protection Fence Review	Most Recent Landscape Install. Review	Most Recent Escrow Release Review	Insp. to Begin 18-Mth Guarantee Period	End of Guarantee Period		Status
								Date Due	Insp. Letter	
Landscape Plan Reviews in Progress or Not Approved										
1130 Easton Road - Pad site LD 15-28	LPR3 3/9/16	7/23/2015 & 8/4/2015								Development staff meeting: August 18, 2015 [Await revised plan submission (technical plan comments)]
Willow Grove Shopping Center Marshalls	LPR2 02/24/22									[Await plan resubmission]
Willow Grove Shopping Center Pad Site 102-170 Park Avenue	LPR2 6/8/22									Virtual Twp Staff / Consultant meetings 12/13/21 and 12/15/21 Development staff meeting: 12/21/21 [Await plan resubmission]
3827 Betz Road Minor Subdivision	LPR2 7/21/22	5/3/22								[Await plan resubmission]
2010 County Line Road - Chipotle Marketplace at Huntingdon Valley	LPR1 6/23/22	6/7/22								Development Staff meeting: 6/30/22 [Await plan resubmission]
2402 Easton Road = Olive Garden	LPR1 - Amended 7/8/22	6/30/22								Development Staff meeting: 7/7/22 [Await plan resubmission]
Landscape Plan Approved - Awaiting Construction										
240 Fitzwatertown Road (Malvern Inst) (Amended Phase II of Willow Crest Manor) LD 16-23	LPR2 6/16/17	5/17/16								Development Staff meeting: 5/20/16; Waiver review memo: 7/7/16; Email review of technical plan comments: 7/5/17 [Await formal response to technical plan comments - reviewed informally]
2425 Blair Mill Road	LPR2 7/1322	5/2/22								[Await pre-construction meeting]
Project Under Construction - Landscape Installation NOT Approved										
2300 Easton Road - Verizon store	LPR3 10/24/2016	9/1/16	12/21/16 KJF	n/a	6/12/19					[Await final request for escrow release associated with landscape installation.]
900 S. York Road - Jaguar Land Rover Waiver of land development	LPR4 8/26/19		9/25/19		Ph 12/4/20 2/19/20 Ph 2 4/8/21 Ph 1&2: 6/16/21		8/18/21			[Await final request for escrow release associated with landscape installation.]
28 N. York Road - Land Development Martin Harrison	LPR2 01/27/20	11/7/18	9/11/20 KJF		ACTIVE					[Monitor tree protection; Await installation of required landscaping]

Project Name and Address	Landscape Plan Review/Approval Date	Site Visit and/or Tree Count	Pre - Construction Meeting	Tree Protection Fence Review	Most Recent Landscape Install. Review	Most Recent Escrow Release Review	Insp. to Begin 18-Mth Guarantee Period	End of Guarantee Period		Status
								Date Due	Insp. Letter	
3195 Pennypack Road - Grading Permit Plan	LPR1 01/27/20	Tree count by Arborist	9/1/20 KJF	9/17/20	6/9/22 ACTIVE					Replacement trees installed, await further direction
2700 Turnpike Drive - Acme Corrugated Box	LPR4 3/19/20	12/12/18	10/27/20 KJF	11/25/20	7/8/2022 (partial) ACTIVE					[Await further installation of required landscaping - commenced in April 2022]
Willow Grove Shopping Center - Tenant Fitout Federal Realty	LPR2 4/23/21	10/2/20	3/30/21 KJF		ACTIVE					Review of OPC: 2/22/21 [Await review of planting design in easements by each governing jurisdiction] [Await review of installed landscaping]
2255 Wyandotte Road	LPR3 5/6/2021	1/30/20	6/29/21 KJF	8/17/21 8/25/21	10/21/21 ACTIVE	4/5/22				LS pre-install meeting 8/25/21 [Follow up 4/5/22 site visit]
432-514 Davisville Road Federation Housing	LPR4 4/27/21	10/9/20	8/17/21							Pre-submission meeting: 8/10/20 Development staff meeting: 10/15/20 Fee-in-lieu / Tree deficiency memo: 11/19/20 [Await installation of landscaping anticipated Fall 2022]
2290 Computer Avenue Aqua PA	LPR2 5/25/21	Online photos	9/22/21 KJF	9/22/21	5/31/22 ACTIVE					Development staff meeting: 3/23/21 [Follow up from 5/31/22 punch list]
551 N. York Road and 230 Fairhill St. Fairhill Commons	CU Review 11/25/19 LPR5 04/21/21	3/5/2019 Site visit 9/5/19 Tree count	11/5/21 KJF							Phone conference (Conditional Use): 3/26/19 Development staff meeting: 8/28/19 Development pre-submission meeting: 1/30/20 Virtual Development coordination meeting: 5/13/20 [Await installation of landscaping anticipated Spring 2023]
1150 Easton Road - parking expansion Urban Air Administrative Plan review	Memo 8/18/21	5/12/21	11/4/21 KJF		ACTIVE					[Await landscape installation]
Project Under Guarantee - Landscape Installation Approved - In Guarantee Period										
End of Guarantee Inspection Performed - Landscape Issues Remain										
2321 Blair Mill Road (Lightbridge Academy) LD 16-10	LPR3 10/11/16	3/30/16	2/21/19 no M&F rep		7/2/20 plan markup			1/1/22 G&A ltr 8/12/20	7/15/22 punch list	Development staff meeting: 4/22/16 Waiver review memo: 7/7/16 [Schedule follow up site visit for 6/9/22 punch list - week of 7/11/22]
2901 Blair Mill Road (Blair Mill TH), Willow Crossing *LD-06-7* Formerly Sabia Townhouses (Builder: Ed Moser)	10/3/12 Amended plan review	5/1/06	7/15/11		10/30/15 email		12/28/15	6/16/17	5/30/17 email	[Revisit site upon completion of punch list items.]
2440 Maryland Road (Fairfield Inn) Ajesh Patel *LD14-2*	LPR4 10/17/14	1/16/14	2/17/15	3/19/15	5/27/16	12/4/15		12/1/17 G&A ltr 6/23/16	10/11/17	[Revisit site upon completion of punch list items.]

TRANSPORTATION ENGINEERS & PLANNERS

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UPPER MORELAND TOWNSHIP
MONTGOMERY COUNTY

PROJECT STATUS
September 13, 2022

WARMINSTER ROAD BRIDGE RECONSTRUCTION

- Project Bids opened 12/16/21 – Project awarded to Allan A. Myers.
- Utility work to be completed in 2022. Bridge work not anticipated to start till 2023.
- Full reconstruction of bridge along Warminster Road by PennDOT.
- Full road closure is required. Approximate 6 - 8 month closure.
- Pedestrian flashing warning device at Mill Road.

MORELAND AVENUE BRIDGE RECONSTRUCTION

- Full reconstruction of bridge along Moreland Avenue at Hatboro Borough border by County.
- Full road closure is required. Approximate 6 - 8 month closure.
- Project Scheduled for 4th Quarter 2022 bid, with construction in Spring 2023 per County.

ROUTE 611 BRIDGE OVER TURNPIKE RAMP

- 2021 DCED MTF grant awarded for Design of Interchange Improvements.
- 2021 PennDOT MTF grant awarded for construction of ramp widening. PennDOT Grant Kick-off meeting held. Agreement to be sent to the Township for signature.
- Survey and design to commence.
- Coordination with PA Turnpike for Open Road Tolling project, which will remove toll booths from Interchange. PA Turnpike project scheduled for construction in second half of 2024.

BYBERRY ROAD AND DAVISVILLE ROAD

- **Final inspections held with PennDOT. Contractor to address punchlist items.**
- Davisville Road to be paved by PennDOT in July 2022.
    - Township project to pave up to binder. PennDOT project will complete final paving and pavement markings.
- Awarded Green Light Go Grant for traffic signal improvements at the intersection. Grant Award - $252,520. Township match - $63,130. Green Light Go funding restored July 1, 2021.
- Awarded Montgomery County Transportation Program (CTP) funding for $31,565 to be applied to Green Light Go match requirement. County allowing CTP funding to be utilized for project. – Extension provided to June 2022.
- Awarded PennDOT MTF for right-turn lane on Davisville Road in the amount of $390,000.

BLAIR MILL ROAD

- Project for widening along Blair Mill Road at Easton Road to lengthen existing right turn lane to new traffic signal at Gibraltar Road and adding sidewalk along the southern side to connect to existing sidewalk.

- DCED MTF award of $575,000 for improvements on west side of intersection.
- PennDOT comments received on HOP Submission. McMahon will address comments. Property owner coordination to begin.

Blair Mill Road (Horsham Project)

- Project for widening along Blair Mill Road at Commerce Avenue\Witmer Rd and at Easton Road. Project be led by Horsham Township. Michael Baker is the designer.
- Designer addressing final PennDOT comments for bidding. **Project Currently open for bidding with bids due 10/6/2022**

Maryland Road Bridge

- Bridge culvert deficiencies identified by PennDOT inspections.
- August 2020 memo from Gilmore Associates identified possible remediation options
- McMahon completed survey and environmental studies. H&H analysis to be completed to determine bridge repairs.

Welsh Road Adaptive Traffic Signal System

- Joint municipal project between Upper Dublin Township, Horsham Township, Abington Township, Upper Moreland Township to upgrade 17 intersections to adaptive operation. Upper Moreland Township maintains Blair Mill Road and Computer Road intersections.
- Project Schedule – Traffic Signal equipment installed. Traffic Signal System being setup May/June 2022. System settings to be optimized in the next couple months to develop timing programs.

2020 ARLE Submission – York and Davisville\Easton Signal Upgrades

- Submitted 2018 GLG award for York Road Signal upgrades (Signal coordination from Davisville to Easton, rail crossing coordination, addition of pedestrian crossing on western leg of intersection with Davisville Road).
- Grant Request - $288,750. Township match $40,000.
- Grant Awarded to Township. Design started.

Montco CTP Grant – Maryland and Commerce Intersection Improvements

- Grant Award - $354,685. Township match $204,685.
- Topo Survey Completed, design underway.
- Coordination with Jefferson Health property started.
- Anticipated design completion in 2022 with construction in Fall 2022.

Warminster Road Sidewalk

- Installation of sidewalk along Warminster Road from Greenbelt to Mill.
- PennDOT HOP submission made 7/11/2022
- Easement Documentation for property owners prepared

- Montco 2040 grant awarded for $200,000.

POWER LINE TRAIL

- Installation of Trail along PECO power line from Blair Mill Road to Maryland Road.
- Coordination Meeting held with PECO to review trail alignment 4/6/22. Final trail alignment approved by PECO. New agreement provided by PECO for trail and parking lot.
- Preliminary Design plans finalized and updated cost estimate being prepared.

2020 GREEN LIGHT GO SUBMISSION

- York Road Signal upgrades (Terwood Road to Newington Road) - Addition of video\radar detection, pedestrian countdown timers, and controller upgrades.
- Grant Award - $147,760. Township match $36,940.

BONNET LANE PARK – PHASE 1 ROADWAY CONNECTIONS AND ACCESSES

- Improvements to provide new road connection from Mill Road to Bonnet Lane, with turning lane on Mill Road. Closure of Bonnet Lane between St. Dunstans and Burnbridge, and installation of parking lot per Bonnet Lane park master plan
- Local Share Account – Statewide grant submission made 3/15/2022

2022 GRANT SCHEDULE

- PennDOT Multimodal Transportation Fund – Due 11/14/2022
- Green Light Go – Fall 2022

EAC September 2022 Report to the CDC

We discussed the progress on the Outdoor Environmental Education Center. We are in the process of setting up a meeting with Paul Purtel and Matt Hocker about requirements.

We discussed ideas about how to help inform the community about the problems of single-use-plastics. Setting out pamphlets and highlighting books on plastics were some ideas.

We are giving the elementary school a tree which will be planted at 1:30 on Oct. 6. An educational sign on the water cycle and how trees are involved will also be provided.

We would like to see the updates and construction on the township building to include very energy efficient upgrades. Hopefully, solar and geothermal would be considered.

We are wondering when the planting might happen at Fair Oaks?

Could there be progress on developing social media rules now that covid is less of an issue?

EAC August 2022 Report to CDC

On Aug, 3 we met and discussed the progress on the Outdoor Environmental Education Center. There is an initial plan and we will be working with Paul Purtel for his recommendations.

We also discussed ways to increase community knowledge about single-use plastics, such as information at the library, information at events, pamphlets at various locations, information for the schools.

We would like to pursue the Tree City certification. We assume that tree plantings will take place in the area near the dog park this fall to help reforest it.

Has there been time to install a water bottle filling fountain at Masons Mill Park?

Has there been any progress on social media rules?