

**CLARKE COUNTY PLANNING COMMISSION
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Clarke County Planning Commission

AGENDA - Briefing Meeting

Tuesday, October 3, 2017 - 3:00PM

Berryville/Clarke County Government Center- A/B Meeting Room

1. Approval of Briefing Meeting Agenda
2. Review of Agenda Items for October 6, 2017 Meeting
3. Old Business Items
4. New Business Items
 - a. Discussion, Large-Scale Greenhouse Operations
5. Other Business
6. Adjourn

NOTE: Ordinances Committee meeting will be held immediately following the Briefing Meeting.



Clarke County Planning Department

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TO: Planning Commission members

FROM: Brandon Stidham, Planning Director

RE: Large-Scale Greenhouse Operations

DATE: September 28, 2017

Item #4a on the Commission's Briefing Meeting agenda is a discussion of applying the County's zoning regulations to large-scale greenhouse operations. The item is being presented in response to several citizen concerns regarding the possibility of a large-scale greenhouse operation being developed in the County. For purposes of this discussion, a large-scale greenhouse operation is a hydroponic farming operation that is conducted entirely within a large, fully-enclosed structure and contains separate facilities for storage, packaging, shipping, and offices. One or more private wells would be used by the facility for process and domestic usage and a private onsite septic system would be used for sewage disposal.

It is Staff's position that a large-scale greenhouse operation would be classified as a by-right use under "agriculture" in the AOC District. The following regulations and processes would apply to this use:

- By virtue of being a "by-right" use, it is a permitted use in the AOC District and would not require a special use permit (SUP) by the Board of Supervisors. County approvals would be administrative in nature and would not require public hearings.
- A site development plan would not be required as "agricultural buildings" are exempt from site development plan requirements per Zoning Ordinance §6-B-1-c. All structures would have to comply with setback and structure height requirements – this would be addressed via zoning permit reviewed and issued by the Zoning Administrator.
- Since development of the site and agricultural buildings would likely result in land disturbance in excess of 10,000 square feet, an erosion and sediment control plan must be submitted, reviewed, and approved in accordance with County Code Chapter 148. If land disturbance is one acre or greater, the applicant will likely be required to submit a stormwater management plan and obtain permit coverage from the Virginia Department of Environmental Quality (DEQ).
- An entrance permit from the Virginia Department of Transportation (VDOT) would be required in order to develop the property entrance.

- All outdoor lighting would have to comply with the County’s “dark sky” regulations for lighting in agricultural areas set forth in County Code Chapter 189.
- The following limitations apply to certain operational elements of the facility in order to remain a by-right agricultural use:
 - The business office shall be accessory to the agricultural operation, meaning that the scope is limited to serving the management of the onsite employees and operations.
 - Zoning Ordinance §3-A-1-e prohibits the use of a “waterworks or sewerage system and treatment works” on AOC properties. This would limit the private well (or wells in a common system) from being used for 15 or more connections or by an average of 25 individuals for at least 60 days out of the year. The sewerage system and treatment works cannot be of such size and design as to meet the criteria for a mass drainfield. The Virginia Department of Health would oversee the permitting of the private well and onsite septic system.
 - Storing, packaging, and shipping of products grown onsite is permitted as part of the by-right agricultural use. Mixing and packaging of products produced both onsite and offsite would also be permitted (e.g., combining greens grown on site with vegetables grown off site to create a salad mix). Storing, packaging, and shipping of products that were entirely produced off site would be prohibited.

Staff notes that as of the drafting of this memo, no application has been filed with the County for a large-scale greenhouse operation.

For the Commission’s information, we have included copies of two sections of the Code of Virginia that are applicable to this discussion:

- §3.2-301, Right to Farm; restrictive ordinances
- §15.2-2288, Localities may not require a special use permit for certain agricultural activities

County Attorney Bob Mitchell will also be present at the Briefing Meeting for this discussion and is available to answer questions. If you have questions in advance of the meeting, please do not hesitate to contact me.

§ 3.2-301. Right to farm; restrictive ordinances

In order to limit the circumstances under which agricultural operations may be deemed to be a nuisance, especially when nonagricultural land uses are initiated near existing agricultural operations, no locality shall adopt any ordinance that requires that a special exception or special use permit be obtained for any production agriculture or silviculture activity in an area that is zoned as an agricultural district or classification. Localities may adopt setback requirements, minimum area requirements, and other requirements that apply to land on which agriculture and silviculture activity is occurring within the locality that is zoned as an agricultural district or classification. No locality shall enact zoning ordinances that would unreasonably restrict or regulate farm structures or farming and forestry practices in an agricultural district or classification unless such restrictions bear a relationship to the health, safety, and general welfare of its citizens. This section shall become effective on April 1, 1995, and from and after that date all land zoned to an agricultural district or classification shall be in conformity with this section.

1981, c. 384, § 3.1-22.28; 1991, c. 293; 1994, c. 779; 2007, c. 444; 2008, c. 860; 2014, c. 246.

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired.

§ 15.2-2288. Localities may not require a special use permit for certain agricultural activities

A zoning ordinance shall not require that a special exception or special use permit be obtained for any production agriculture or silviculture activity in an area that is zoned as an agricultural district or classification. For the purposes of this section, production agriculture and silviculture is the bona fide production or harvesting of agricultural products as defined in § 3.2-6400, including silviculture products, but shall not include the processing of agricultural or silviculture products, the above ground application or storage of sewage sludge, or the storage or disposal of nonagricultural excavation material, waste and debris if the excavation material, waste and debris are not generated on the farm, subject to the provisions of the Virginia Waste Management Act. However, localities may adopt setback requirements, minimum area requirements and other requirements that apply to land used for agriculture or silviculture activity within the locality that is zoned as an agricultural district or classification. Nothing herein shall require agencies of the Commonwealth or its contractors to obtain a special exception or a special use permit under this section.

Code 1950, § 15-968.5; 1962, c. 407, § 15.1-491; 1964, c. 564; 1966, c. 455; 1968, cc. 543, 595; 1973, c. 286; 1974, c. 547; 1975, cc. 99, 575, 579, 582, 641; 1976, cc. 71, 409, 470, 683; 1977, c. 177; 1978, c. 543; 1979, c. 182; 1982, c. 44; 1983, c. 392; 1984, c. 238; 1987, c. 8; 1988, cc. 481, 856; 1989, cc. 359, 384; 1990, cc. 672, 868; 1992, c. 380; 1993, c. 672; 1994, c. 802; 1995, cc. 351, 475, 584, 603; 1996, c. 451; 1997, c. 587; 2012, c. 455; 2014, c. 435.

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired.



Clarke County Planning Commission

AGENDA – Regular Meeting

Friday, October 6, 2017 – 9:00AM

Berryville/Clarke County Government Center – Main Meeting Room

1. **Approval of Agenda**
2. **Approval of Minutes**
 - a. August 29, 2017 Briefing Meeting
 - b. September 1, 2017 Regular Meeting

Continued Public Hearing Items

3. **SUP-17-03/SP-17-01, Clarke County Board of Supervisors (Citizens' Convenience Center).**
Request approval of a Special Use Permit (SUP) and Site Development Plan for Public Utility Uses and Structures per §3-A-1-a-3-p of the Zoning Ordinance. The purpose is to construct a County-operated citizens' convenience center for drop-off of household waste and recycling to be developed on a two-acre portion of a 149 acre property owned by Stuart M. Perry, Inc. The property is zoned Agricultural-Open Space-Conservation (AOC) District and is identified as Tax Map #16-A-33. The proposed use would be located on the west side of Quarry Road (Rt. 612) approximately 500 feet south of its intersection with Harry Byrd Highway (Rt. 7) in the Buckmarsh Election District.

Board/Committee Reports

4. **Board of Supervisors (Mary Daniel)**
5. **Board of Septic & Well Appeals (George Ohrstrom, II)**
6. **Board of Zoning Appeals (Anne Caldwell)**
7. **Historic Preservation Commission (Doug Kruhm)**
8. **Conservation Easement Authority (George Ohrstrom, II)**
9. **Broadband Implementation Committee (Mary Daniel)**

Other Business

Adjourn

UPCOMING MEETINGS

Tuesday, October 31, 2017 (3:00PM) – Briefing Meeting

Friday, November 3, 2017 (9:00AM) – Regular Meeting

Clarke County



**PLANNING COMMISSION
BRIEFING MEETING MINUTES
TUESDAY, AUGUST 29, 2017 -- DRAFT**

A briefing meeting of the Planning Commission of Clarke County, Virginia, was held at the Berryville/Clarke County Government Center, Berryville, Virginia, on Wednesday, July 5, 2017.

ATTENDANCE

Present: Robina Bouffault; Anne Caldwell (Vice-Chair); Mary Daniel; Scott Kreider; Douglas Kruhm; Frank Lee; Gwendolyn Malone; Cliff Nelson; George L. Ohrstrom, II (Chair); and Jon Turkel.

Absent: Randy Buckley

Staff Present: Brandon Stidham, Planning Director; Ryan Fincham, Senior Planner/Zoning Administrator; Alison Teetor, Natural Resources Planner

Others Present: Mark Cline (Hurt & Proffitt); Cathy Kuehner (Winchester Star)

CALLED TO ORDER

Chair Ohrstrom called the meeting to order at 3:00PM.

AGENDA

The members approved the agenda by consensus as presented.

REVIEW OF AGENDA ITEMS FOR SEPTEMBER 1, 2017 MEETING

SUP-17-03/SP-17-01, Clarke County Board of Supervisors

Mr. Fincham provided an update on the citizens' convenience center project noting that Mark Cline (Hurt & Proffitt) is available to answer any technical questions. He stated that some of the comments discussed at the previous meeting have been addressed but that the main outstanding issue is the continuing work on the Karst plan. He added that engineers are currently conducting site work for the Karst plan and that it will take a couple of weeks to complete testing and revise the plan for review by Dan Rom. He said that the Virginia Department of Transportation (VDOT) has not issued a final approval letter but that Hurt & Proffitt staff has addressed their comments. He also said that Hurt & Proffitt staff has addressed the Department of Environmental Quality's (DEQ) comments but that they have a maximum of 45 days to complete their review of the revisions and have not issued an approval letter. He also gave a brief update on the County's resolution of the water source issue with the Quarry owners and noted that while this issue does not require further Commission review, it was a source of additional delays for this project. He added that a new well location has been agreed to and

that the County Attorney is working on easement language for the well and water line. Mr. Cline provided additional details on the well location and construction process. Mr. Turkel noted that other convenience centers in Frederick County do not have public water or bathrooms and he asked why this project cannot move forward without a well. Mr. Fincham replied that the County's septic and well ordinance prohibits the use of permanent portable toilets in this context so a bathroom and drainfield is required. Ms. Daniel noted that Clarke County is the only jurisdiction that she is aware of that does not exempt government projects from its own ordinances and added that this is a good thing. Mr. Fincham also reviewed the revised landscaping plan noting that the Commission's comments have been addressed. He concluded by saying that Hurt & Proffitt has provided a timeline that coincides with upcoming meeting dates and filing deadlines and that if there are no further delays, outstanding issues should be addressed in time for the October meeting.

Mr. Kruhm asked if there will be glass recycling at this facility and Mr. Fincham deferred to the County Administrator to answer that question. Members then briefly discussed that area localities with the exception of Berryville no longer recycle glass. Chair Ohrstrom added that Warren County accepts glass but they do not recycle it – they grind it up and use it for cover on landfill cells.

Mr. Stidham reviewed the substantial accordance review process that is required for this project as it proposes the construction of new public infrastructure. He said that the Commission would need to adopt a separate motion indicating whether the project is or is not in accord with the Comprehensive Plan. Chair Ohrstrom asked whether that motion could be taken at the same time the Commission makes their recommendation on the SUP/site plan application and Mr. Stidham replied yes.

Mr. Fincham said that Staff recommends that the request be deferred and that the Public Hearing be continued to the Commission's October 6 meeting.

TA-17-03, Off-Street Parking Exemption for Certain Properties in Millwood

Mr. Stidham said that Staff has only received one or two inquiries about the proposed text amendment but none have provided any feedback. Chair Ohrstrom asked whether the item is advertised for Public Hearing and Mr. Stidham replied yes. Mr. Lee asked how much advance notice have we provided for this item and Mr. Stidham replied that we have done the standard advertisement procedures for all public hearings. Mr. Stidham added that the business owners are definitely aware of the text amendment because they have attended prior meetings on the topic. Ms. Daniel asked whether notice was mailed to the eight affected property owners. Mr. Stidham replied that he did not mail notices because there is no requirement to do so with text amendments and he did not want to alter our procedures.

Prior to discussion of the minor subdivision applications, Mr. Kruhm asked whether there had been any resolution to the neighbor's concerns that were raised at the Public Hearing for the Hecate Energy solar farm SUP application. Mr. Stidham replied that it is his understanding that all property owners who expressed concern about construction impacts received some form of compensation from Hecate Energy. He added that no further complaints have been reported. Ms. Bouffault said that she visited the site after the Public Hearing and noted only a few tire prints along the frontage of the adjacent property.

MS-17-03, Barry S. Wells

Mr. Fincham provided an overview of the proposed minor subdivision. He explained that Village Lane, an existing private access easement, does not currently meet the County's private access easement standards and compared this application to recent similar cases. He said that a plat note indicating that no building permit shall be issued for the proposed vacant lot until Village Lane is improved to meet County standards may address the issue, but the applicant is ultimately responsible for proposing a course of action. He indicated that the applicant is aware that they will have to upgrade the road and that this may not be an issue. He also said that when the time comes for the road to be upgraded, either the County engineering consultant will have to inspect and certify the road construction at the applicant's cost or the applicant will have to get their own surveyor or engineer to certify construction. He added that VDOT has provided comments that will need to be addressed by the applicant for the plat and the future construction. He said that although the property is located below the 800-foot elevation mark, there are some FOC District requirements that will have to be addressed for the proposed house site. He concluded by stating that the Staff recommendation is for deferral but that this may change if outstanding issues are addressed by the Commission's Friday meeting.

Vice-Chair Caldwell noted that the property address on the Staff report is incorrect and Mr. Fincham said that he would correct the report. She also said that she thought that this property might be in the Buckmarsh Election District and not the Millwood District. Mr. Fincham said that he will verify that this is accurate. Mr. Lee noted that there are two drainfield sites shown on the proposed seven acre lot and asked if they are planning to subdivide it in the future. Mr. Fincham replied that they do have two dwelling unit rights on that proposed lot and that if it is subdivided in the future, the new lot would be either the eighth or ninth lot using Village Lane.

MS-17-04, William Waite & Marchia Teschner / Richard C. & Caroline Van Wagoner

Mr. Fincham reviewed the proposed minor subdivision. He noted that VDOT has requested modifications to the proposed property entrance including moving existing stone columns back away from the road. He said that remaining items are minor in nature and that he is waiting on the surveyor to submit revised plants. He said that Staff is recommending deferral pending the submission of revised plats to address the outstanding issues. He added that he believes that this application will be ready to approve by Friday. Mr. Lee noted that he will be recusing himself because he did the soil work on this application.

Regarding minor subdivisions in general, Mr. Fincham noted that some recent applications have resulted in last minute resubmissions to address outstanding concerns. He added that the surveyor in the Pope application from the Commission's July meeting handed him revised plats at the meeting resulting in changing the recommendation from defer to approve. He said that the Commission did not include minor subdivisions in the types of applications that have filing deadlines and that some change may need to take place to address last minute submission of materials. Chair Ohrstrom noted that accepting last minute changes can make the Commission's approval look highly irregular in reviewing the record. He added that a deadline of Monday prior to the briefing meeting could be established to address the problem. Mr. Stidham said that this could be established as a policy and our local design professionals can be notified of the new practice. Mr. Fincham said that the filing deadlines established a couple of years ago are working very well for other application types.

OTHER BUSINESS

Ms. Teetor provided a progress report on the efforts to update the Historic Resources and Water Resources Component Plans.

Mr. Stidham said that he may be scheduling a meeting of the Ordinances Committee after the October briefing or regular meetings to discuss the process of updating the Zoning and Subdivision Ordinances.

The meeting was adjourned by consensus at 3:48PM.

George L. Ohrstrom, II (Chair)

Brandon Stidham, Planning Director

Clarke County

**PLANNING COMMISSION
REGULAR MEETING MINUTES -- DRAFT
FRIDAY, SEPTEMBER 1, 2017**



A regular meeting of the Planning Commission of Clarke County, Virginia, was held at the Berryville/Clarke County Government Center, Berryville, Virginia, on Friday, September 1, 2017.

ATTENDANCE

Present: George L. Ohrstrom, II, Chair; Anne Caldwell, Vice Chair; Robina Bouffault; Randy Buckley; Mary Daniel; Scott Kreider; Doug Kruhm; Frank Lee; Gwendolyn Malone; Cliff Nelson and Jon Turkel.

ABSENT

None

Staff Present: Brandon Stidham, Planning Director; and Ryan Fincham, Senior Planner/Zoning Administrator; and Debbie Bean, Recording Secretary.

CALLED TO ORDER

Chair Ohrstrom called the meeting to order at 9:00 a.m.

APPROVAL OF AGENDA

The Commission voted to approve the Agenda as presented.

Yes: Bouffault, Buckley, Caldwell, Daniel, Kreider, Kruhm, Lee, Malone (seconded), Nelson (moved), Ohrstrom and Turkel

No: No one

APPROVAL OF MINUTES

The Commission voted to approve the briefing meeting minutes of July 5, 2017 with one correction to the attendance

Yes: Bouffault, Buckley, Caldwell (moved), Daniel, Kruhm, Lee (seconded), Ohrstrom and Turkel

No: No one

Abstained: Kreider, Malone and Nelson

The Commission voted to approve the regular meeting minutes of July 7, 2017 with one typographical correction.

Yes: Bouffault (moved), Buckley, Caldwell, Daniel, Kruhm, Lee (seconded), Malone, Nelson, Ohrstrom and Turkel

No: No one

Abstained: Kreider

Public Hearing

SUP-17-03/SP-17-01, Clarke County Board of Supervisors (Citizens' Convenience Center).

Request approval of a Special Use Permit (SUP) and Site Development Plan for Public Utility Uses and Structures per §3-A-1-a-3-p of the Zoning Ordinance. The purpose is to construct a County-operated citizens' convenience center for drop-off of household waste and recycling to be developed on a two-acre portion of a 149 acre property owned by Stuart M. Perry, Inc. The property is zoned Agricultural-Open Space-Conservation (AOC) District and is identified as Tax Map #16-A-33. The proposed use would be located on the west side of Quarry Road (Rt. 612) approximately 500 feet south of its intersection with Harry Byrd Highway (Rt. 7) in the Buckmarsh Election District.

Mr. Fincham explained this request and gave a power point presentation. He showed an aerial view of the proposed site. He said that the purpose of this request is to construct a County-operated citizens' convenience center for drop-off of household waste and recycling to be located on a 2 acre portion of a 149 acre property. He stated that since the July 7th Planning Commission meeting some items have been fully addressed including Staff's site plan review comments and the required and requested landscaping revisions from the Planning Commission. He said one major issue that remains outstanding is the karst review including completing of additional site boring tests. He stated that the applicant's engineer has been working with their geotechnical staff to research the karst concerns. He said it has been determined that additional boring tests are required, and these tests must be completed prior to the review by Dan Rom, County karst consultant. He stated the additional boring tests that are needed will be performed as early as next week with a report produced within three weeks after borings are conducted. He said other items needed are approval from the Virginia Department of Transportation (VDOT) and the Virginia Department of Environmental Quality (DEQ) and Staff is waiting for responses from both agencies. He stated that evaluation of the special use permit request requires an in-depth analysis of 19 criteria. He said that Staff has provided a detailed analysis of the proposed facility's compliance with each of these criteria as listed in the Staff report. He stated some criteria could not be fully addressed due to outstanding technical information referenced previously. He said that one of the criteria is will this request be consistent with the Comprehensive Plan of the County. He stated that Mr. Stidham will address this item.

Mr. Stidham stated that "public utility uses and structures" has been an allowable use in the AOC district for a number of years. He said that the use itself is in general accord with the Comprehensive Plan by virtue of its inclusion in the Zoning Ordinance. He stated that Objective 11 of the Comprehensive Plan provides guidance regarding the siting of new County facilities that can be applied to the locations and scale of the proposed citizens' convenience center. He said that the area of the proposed convenience center is in a good location for neighbors using the facility and will not cause unreasonable traffic congestion. He stated the operation of hours will be the same as the other facility in the County. He said the location, character and extent of the proposed citizens' convenience center is in general accord with the County's Comprehensive Plan subject to compliance with the Zoning Ordinance's regulations.

Mr. Fincham stated that Staff recommends that the Commission defer action on the Special Use Permit and Site Plan and continue the Public Hearing for one month until the October 6, 2017 Planning Commission meeting.

After discussion with Staff and the Commission, Chair Ohrstrom opened the public hearing.

There being no public comments, Chair Ohrstrom called for a motion.

The Planning Commission voted to defer action on the Special Use Permit and Site Plan and continue the Public Hearing for one month until the October 6, 2017 meeting.

Yes: Bouffault (moved), Buckley, Caldwell, Daniel, Kreider, Kruhm, Lee, Malone, Nelson, Ohrstrom and Turkel (seconded)

No: No one

TA-17-03, Off Street Parking Exemption for Certain Properties in Millwood

Mr. Stidham explained this proposed amendment. He said this was first discussed in May at the Board of Supervisors meeting. He gave a power point presentation showing the areas in Millwood where parking is an issue. He said these properties are the Post Office, Antique Store, former Hair Salon, Lockes Store, the former Art Gallery and the Burwell Morgan Mill. He stated it should be noted that these parking standards are primarily designed for modern commercial uses and developments. He said that the dimensional requirements for parking space size and quantity, drive aisles, and loading areas do not correspond to this unique historic business district containing parcels with non-conforming lots, building envelopes, and other development constraints. He stated that the proposed text amendment would not solve the parking limitations in this area, but it would create a codified process that would place business owners and property owners on notice that there is limited parking. He said it would also be clear the County will not require new businesses to establish new off-street parking areas to comply fully with zoning requirements. He stated that owners that consider locating here in the future would have clear regulatory information necessary to make a value judgment on how the limited parking may impact the success of their business. After discussion with Staff and the Commission, Chair Ohrstrom opened the public hearing.

Nathan Stalvey, Director of the Clarke County Historical Association which owns and operates the Burwell Morgan Mill in Millwood stated that that he is here today representing the Mill and the businesses in Millwood. He said we are seeing more activities at the Mill as the events increase. He stated that over the years we have worked with the other businesses and shared parking with them. He said that we definitely try to work very close with each other and we are in favor of keeping parking the way it is and keeping this exemption in place is the best thing for all of us. He is asking the Planning Commission to consider this when making a decision.

There being no further public comments, Chair Ohrstrom closed the public hearing and called for a motion.

The Commission voted to recommend adoption of the proposed text amendment as presented to the Board of Supervisors.

Yes: Bouffault (seconded), Buckley, Caldwell (moved), Daniel, Kreider, Kruhm, Lee, Malone, Nelson, Ohrstrom and Turkel

No: No one

Minor Subdivision Applications

MS-17-03, Barry S. Wells

Mr. Fincham said that the applicant is requesting approval for a two lot Minor Subdivision. He stated that he has provided an updated plat and Staff report for the Planning Commission. He said that the applicant has met all requirements of the Health Department and they are prepared to sign the final plats when received. He stated that the Virginia Department of Transportation (VDOT) contacted Staff in regard to the proposal. He said that the requirements include upgrades to the entrance with a detailed construction plan. He stated that notes have been added to the plat regarding the development of Lot 2 and the notification of many issues that may need addressed if the second DUR is ever to be utilized. He said that the surveyor has addressed the requirements in the Clarke County Subdivision Ordinance §4-N. He stated that Staff will continue to work with the applicant and surveyor to satisfy all requirements prior to obtaining Planning Commission Chair signatures on final plats.

After discussion with Staff and the Commission, Chair Ohrstrom called for a motion.

The Commission voted to approve this request contingent upon satisfying VDOT requirements, information and revisions required by Staff and submittal of an unexecuted Deed of Dedication, Easement and Road Maintenance agreement or amendment of existing records as needed.

Yes: Bouffault (moved), Buckley, Caldwell, Daniel, Kreider, Kruhm (seconded), Lee, Malone, Nelson, Ohrstrom and Turkel

No: No one

MS-17-04, William Waite & Marchia Teschner /Richard C. & Caroline Van Wagoner

Mr. Fincham said that the applicant is requesting a two lot minor subdivision. He stated that he has provided an updated plat and Staff report to the Planning Commission. He stated that the Health Department provided comments in regard to this request. He said that the applicants are required to apply for certification letters for each proposed septic area with the Health Department. He stated that the Health Department is prepared to sign the final plats once the certification letter applications have been received. He said that VDOT has contacted Staff in regard to this proposal. He stated that the applicant is aware of the needed requirements including upgrades to the entrance with a detailed construction plan and plat notes have been added. He said that the surveyor has addressed the requirements in the Clarke County Subdivision Ordinance §4-N. After discussion with Staff and the Commission, Chair Ohrstrom called for a motion.

The Commission voted to approve this request contingent upon satisfaction of VDOT requirements and submittal of an unexecuted Deed of Dedication, Easement, and Road Maintenance agreement.

Yes: Bouffault (moved), Buckley, Caldwell, Daniel, Kreider (seconded), Kruhm, Malone, Nelson, Ohrstrom and Turkel

No: No one

Abstained: Lee

Chair Ohrstrom stated that deadline requirements need to be implemented for minor subdivision paperwork so that Staff has time to process accordingly.

Board/Committee Reports

Board of Supervisors (Mary Daniel)

Commissioner Daniel stated that the Board of Supervisors (BOS) are very interested in the Citizens Convenience Center. She said that she will be updating the BOS on the idea of deadline requirements for paperwork that the Planning Commission discussed earlier. She stated she has been getting overwhelming feedback from citizens in regard to Mrs. Byrd's request to increase the elderly real estate tax relief program. She said that the Finance Committee voted against it. She stated that Clarke County has a more generous elderly real estate tax relief program than most of the surrounding counties. She said that the Broadband Committee met and went over the responses received on the "Request for Information". She stated that Mr. Stidham has set the Broadband Committee up to speak to four different providers at a round table setting. She said these are four different providers offering various kinds of services and the meeting is scheduled for September 18th. Mr. Stidham added that we have taken one page on the county website and morphed this page into a standalone website that we are close to finalizing. He said we want to send this information out to the Board of Supervisors and the Planning Commission and request their comments on this website. He said the email should be going out soon.

--- Randy Buckley left meeting at 10:00 a.m.

Board of Septic & Well Appeals (George Ohrstrom, II)

No report.

Board of Zoning Appeals (Anne Caldwell)

Commissioner Caldwell stated that Amelia D. Bailey, Trustee of the Amelia Denise Bailey Trust; Amelia D. Bailey, Executrix of the Estate of Frank S. Pierson, Jr.; and Amelia D. Bailey and Joseph T. Bailey filed an application appealing the Zoning Administrator's administrative determination. She said they were appealing that the Clarke County Zoning Ordinance §3-D-9 would apply to the applicant's proposed Boundary Line Adjustment. She said that after Robert Mitchell, County Attorney and Scott Smalley, Attorney for the Appellants, presented their cases, the Board voted in favor of the Zoning Administrator's determination that §3-D-9 of the Zoning Ordinance would apply to the proposed Bailey/Pearson boundary line adjustment.

Historic Preservation Commission (Doug Kruhm)

Commissioner Kruhm stated that the next meeting for the Historic Preservation Commission is scheduled for September 20th.

Conservation Easement Authority (George Ohrstrom, II)

Chair Ohrstrom stated that the Conservation Easement Authority has closed on three easements and is currently working on others.

Discussion

Mr. Stidham suggested that when filing an application for a Minor Subdivision all documentation must be filed by the Monday before the briefing meeting. He said that we could also add another month to meet the deadlines. The Commission agreed that Minor Subdivisions need to have completed paper work before being presented to the Planning Commission.

On motion by Commissioner Nelson and seconded by Commissioner Malone the meeting was adjourned at 10:19 a.m.

George L. Ohrstrom, II, Chair

Brandon Stidham, Director of Planning

Minutes prepared by Debbie Bean, Recording Secretary

**SPECIAL USE PERMIT/SITE PLAN (SUP-17-03/SP-17-01)
Clarke County Board of Supervisors (Citizens' Convenience Center)
October 6, 2017 Planning Commission Meeting – CONTINUED PUBLIC HEARING
SUPPLEMENTARY STAFF REPORT #1 – Department of Planning**

The purpose of this staff report is to provide information to the Planning Commission and Board of Supervisors to assist them in reviewing this proposed land use request. It may be useful to members of the general public interested in this request.

Case Summary

Applicant:

Clarke County Board of Supervisors

Property Owner:

Stuart M. Perry, Incorporated

Location:

- 426 Quarry Road, Site area West side of Quarry Road (Rt. 612)
- Tax Map #16-A-33
- Buckmarsh Election District: Scott Kreider/Douglas Kruhm (Planning Commission);
David Weiss (Board of Supervisors)

Parcel Size/Project Area: 149.00 total acres; 2.0 acre lease area for project

Request:

Request approval of a Special Use Permit (SUP) and Site Development Plan for Public Utility Uses and Structures per §3-A-1-a-3-p of the Zoning Ordinance. The purpose is to construct a County-operated citizens' convenience center for drop-off of household waste and recycling to be located on a 2 acre portion of a 149 acre property. The property is zoned Agricultural-Open Space-Conservation (AOC) District and is identified as Tax Map #16-A-33. The proposed use would be located on the west side of Quarry Road (Rt. 612) approximately 500 feet south of its intersection with Harry Byrd Highway (Rt. 7) in the Buckmarsh Election District.

Staff Recommendation:

Conduct advertised continued public hearing and provide a formal recommendation to the Board of Supervisors on the application. Staff recommends approval of the request for a special use permit and site plan for the proposed citizen's convenience center on condition of a formal DEQ approval letter and a final approval from the County karst consultant.

Case Update:

The case was deferred at the September 1, 2017 Commission meeting to allow time to address the Virginia Department of Transportation (VDOT), the Virginia Department of Environmental Quality (DEQ), and review of Karst issues by the County Karst Engineer Consultant. Each item is addressed below:

VDOT:

On September 15, 2017, Staff received an email from Bobby Boyce, VDOT Land Development Engineer, that the revised plans submitted by the Applicant appear satisfactory and are approved. The Applicant will continue to work with VDOT to acquire needed permits for construction and approval.

DEQ:

On September 25, 2017, Staff received an email from Dustin Staton, DEQ Stormwater Compliance Specialist, that the revised plan appears to not require any major additional changes, and the planning commission can proceed with this document and should not anticipate any major changes. The Applicant will continue to work with DEQ on any required follow-up paperwork or action.

Karst:

On September 21, 2017, Staff received an email from Dan Rom, County Karst Engineering Consultant, that stated, “In summary, the Karst Plan reported by H&P generally conforms to industry standards; however, additional comment regarding the adequacy of cement grout as a borehole filler should be provided.” Earlier in the report Mr. Rom noted, “H&P noted, on page 3 of the geotechnical report, that borings were backfilled using cement grout in the upper one-half to one-third of depth. Straight cement grout is subject to shrinkage and may not provide an adequate long-term seal and protection from infiltration. Generally, a cement-bentonite grout is used. It is recommended that H&P provide additional discussion.”

Therefore, in terms of the overall Karst review of the project the County karst consultant has approved the study, but a grouting issue is being discussed between the engineers. This is not a substantive impact to the SUP/SP review. The Applicant’s engineer responded to this concern by email on September 27, 2017, and we are awaiting Mr. Rom’s reply.

Staff Analysis – Special Use Permit Review Criteria (§5-B-5)

Evaluation of the 19 criteria as set forth in §5-B-4 of the Zoning Ordinance for a special use permit request was presented at the September 1, 2017 public hearing; however four criteria were pending completed evaluations once all comments had been received by review agencies. The pending criteria are addressed below:

- f. *Will not cause unreasonable traffic congestion or unsafe conditions on existing or proposed public roads and has adequate road access.*

VDOT has approved the site plan. The Applicant will be responsible for obtaining construction approval from VDOT for a moderate commercial entrance. Any required improvements must be completed or bonded before the facility will be allowed to operate. VDOT did not identify any traffic congestion concerns in their comments. Staff has included a condition which notifies the Applicant to mitigate any unforeseen traffic stacking by utilizing the facility driveway.

- k. *Will not cause unreasonable depletion of or other undue adverse effect on the water*

source(s) serving existing development(s) in adjacent areas.

The proposed well to serve the facility is only for attendant use and clean-up activities. There is no evidence that the well will cause unreasonable depletion or adverse effects on water sources. The County karst consultant did not identify any water resource concerns in his comments.

l. Will not cause undue surface or subsurface water pollution.

The County Karst consultant has approved the plan with no water pollution issues identified. The consultant review noted “In our opinion, the extent of exploration, laboratory testing, and engineering input by H&P was adequate for the scope of the project.”

o. Will have adequate facilities to provide safety from flooding, both with respect to proposed structures and to downhill/downstream properties.

The Virginia Department of Environmental Quality (DEQ) has approved the stormwater management plan and did not identify any flooding issues.

Special Use Permit Conditions:

Staff has provided the following list of Special Use Permit Conditions to address the various issues with this request discussed in this report and in previous Staff Reports.

- 1. Special Use Permit purpose; nontransferable.** This Special Use Permit is issued for the subject property for operation of a “citizen’s convenience center” solely by the Applicant, *Clarke County Board of Supervisors*. The Special Use Permit shall not be transferable to any other person or entity without prior approval of the Board of Supervisors as an amendment to the approved Special Use Permit conditions, such approval not to be unreasonably withheld.
- 2. Applicant and Property Owner (“Owner”) to sign list of adopted permit conditions.** The Applicant and the Owner shall sign the list of adopted conditions to indicate receipt of the conditions and the intention to comply fully with the conditions for the life of the special use permit. A signed copy of the conditions shall be provided to Planning Department Staff (“Staff”) within thirty (30) days of the Applicant’s and Owner’s receipt of the adopted conditions.
- 3. Access for inspections required.** Staff and other County officials shall have access to the property with 24 hour notice to the Applicant in order to conduct periodic compliance inspections of the facility and the subject property throughout the life of the permit.
- 4. Ongoing maintenance of site features.** The following site features shall be properly maintained throughout the life of the permit:
 - Property entrance shall be maintained consistent with VDOT regulations.

- Vegetated property buffer including existing trees and shrubs and supplemental plantings as depicted on the approved landscaping plan per Zoning Ordinance requirements.
 - Fences and gates.
 - Outdoor lighting fixtures to ensure compliance with Zoning Ordinance requirements.
 - Signage.
 - Allowable access for emergency service and law enforcement.
5. **Entrance requirements.** The following conditions shall apply to the property entrance.
- **VDOT permitting required.** The Applicant shall obtain all required permits from VDOT and complete all required improvements to the property entrance prior to issuance of a building permit.
6. **State and Federal permits.** The Applicant shall provide copies of all applicable State and Federal permits to Staff prior to issuance of a building permit.
7. **Noise.** The following condition shall apply to noise generated during the construction of the facility and the facility's ongoing operation.
- **Construction noise.** All construction activities shall be limited to 7:00AM to 7:00PM in order to limit noise impacts on adjacent and nearby properties.
 - **Operating noise.** All operational activities shall be limited to 6:00AM to 8:00PM in order to limit noise impacts on adjacent and nearby properties. This shall include emptying, removal, and replacement of dumpsters.
8. **Control of refuse and debris; pest management.** There shall be no accumulation of refuse or debris on the property except in the properly designed containers for holding refuse and recycling. Pest control measures shall be employed by the Applicant in order to prevent rodents and other vermin from becoming a nuisance.
9. **Landscaping Plan.** The following condition shall govern the installation of landscaping in accordance with the approved plan.
- **Full installation required.** All landscaping shown on the approved landscaping plan shall be installed prior to issuance of a certificate of occupancy to operate the facility. The landscaping shall be inspected by County Staff one year after issuance of the certificate of occupancy to determine viability of plantings and identify any dead landscaping to be removed. The Applicant shall be responsible for contacting the Department of Planning to schedule this inspection.
 - **Minor deviations from approved landscaping plan.** In the event that the Applicant requests a minor deviation from the approved landscaping plan in order to avoid unforeseen conflicts or to move plantings to more effective locations on the site, such deviation shall be provided on a revised plan sheet for review and

approval by Staff. Additionally, Staff may request minor deviations from the approved landscaping plan, including provision of additional plantings, in order to ensure that supplemental landscaping provides effective screening of the facility from adjacent properties. Staff may consult with the Planning Commission's Site Plan Committee to determine whether such minor deviations, requested either by the Applicant or by Staff, is consistent with the special use permit and site plan approvals.

10. Lighting. Lighting shall only be utilized during operating hours or in cases of emergencies in order to limit impacts on adjacent and nearby properties.

11. Traffic. The Applicant should utilize the facility driveway or by other means available to prevent stacking of vehicles on Quarry Road.

Staff Recommendation:

Conduct advertised continued public hearing and provide a formal recommendation to the Board of Supervisors on the application. Staff recommends approval of the request for a special use permit and site plan for the proposed citizen's convenience center on condition of a formal DEQ approval letter and a final approval from the County karst consultant.

Additional Note:

Prior to taking formal action on the special use permit and site development plan applications, the Commission should adopt one of the following draft motions regarding the issue of substantial accordance with the Comprehensive Plan.

In accordance:

The Planning Commission finds that the approximate location, character, and extent of the proposed citizens' convenience center to be substantially in accord with the Clarke County Comprehensive Plan per Code of Virginia §15.2-2232.

Not in accordance:

The Planning Commission finds that the proposed citizens' convenience center is not substantially in accord with the Clarke County Comprehensive Plan for the following reasons [*STATE SPECIFIC REASONS*].

History:

- | | |
|-----------------------|--|
| May 22, 2017 | Pre-Application meeting held with Planning Staff. |
| June 2, 2017 | Special Use Permit and Site Plan Applications filed by the applicant. |
| June 21, 2017. | Plans Review Committee meeting held. |

- July 7, 2017.** **Planning Commission voted 10-0-1 (Kreider absent) to schedule Public Hearing for the Commission's September 1, 2017 meeting.**
- July 18, 2017.** **Placed on the Board's meeting agenda to schedule Public Hearing.**
- September 1, 2017** **The Planning Commission voted unanimously to defer action on the Special Use Permit/Site Plan and continue the Public Hearing for one month until the October 6, 2017 meeting.**
- October 6, 2017** **Placed on the Commission's meeting agenda for continued Public Hearing and advertised.**

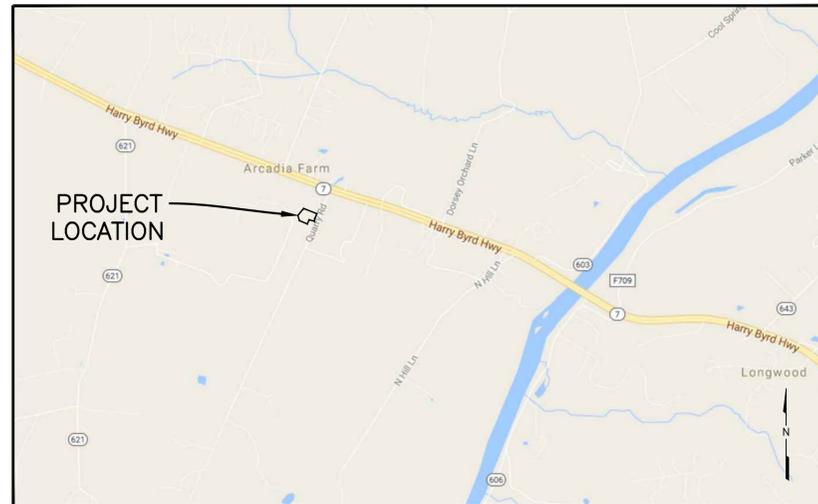
CLARKE COUNTY CITIZEN CONVENIENCE CENTER CLARKE COUNTY, VIRGINIA

GENERAL PROJECT INFORMATION:

- DEVELOPER:
COUNTY OF CLARKE, VIRGINIA
101 CHALMERS COURT
BERRYVILLE, VA 22611
PHONE: (540) 955-5100
CONTACT: DAVID ASH – COUNTY ADMINISTRATOR
- PARCEL OWNER:
STUART M. PERRY INCORPORATED – 2-ACRE PARCEL LEASED TO CLARKE COUNTY FOR CITIZEN CONVENIENCE CENTER (24 MAY 2012)

ZONING DISTRICT: AOC (AGRICULTURAL-OPEN SPACE-CONSERVATION)

OVERALL PARCEL INFORMATION:
ID: #16 A 33
AREA: 149 ACRES
LEASE AREA: 2 ACRES
- CIVIL ENGINEER:
HURT & PROFFITT, INC.
C/O MARK CLINE
1880 PRATT DRIVE, SUITE 2005
BLACKSBURG, VIRGINIA 24060



VICINITY MAP
1" = 2000'

EXISTING	ITEM	PROPOSED
BM 000	BENCHMARK	N/A
△	SURVEY CONTROL POINT	N/A
△ TRS 1	TRAVERSE ROD SET	N/A
--- -2050---	5' CONTOUR LINE	---(00)---
-----	1' CONTOUR LINE	---53.80---
x 53.80	SPOT ELEVATION	N/A
---	PROPERTY LINE	N/A
---	SETBACK LINE	N/A
---W---	WATER LINE	---6" W---
○wm	WATER METER	---○---
N/A	WATER LINE VALVE	---○---
○	FIRE HYDRANT	---○---
N/A	SANITARY SEWER PIPE	---
N/A	SANITARY CLEANOUT	○
N/A	SANITARY SEWER MANHOLE	○
N/A	SEPTIC DRAIN FIELD BOUNDARY	-----
---CMP---	STORM SEWER PIPE	-----
N/A	VDOT DI-1 DROP INLET	■
N/A	VDOT MH-1 MANHOLE	○
EX1	STORM SEWER STRUCTURE MARKER	○3
N/A	U/G ELECTRIC	---UGE---
---ohp---	O/H POWER	N/A
□	POWER POLE	N/A
---	GUY WIRE	N/A
---oht---	O/H TELEPHONE	N/A
○	TELEPHONE POLE	N/A
N/A	SIGN	N/A
MB	MAIL BOX	N/A
---	FENCE	N/A
---	TREE	N/A
---	WOODS / TREELINE	N/A
---	BUILDING	---
---	WALL	---
N/A	GRAVEL ROAD	N/A
---	VDOT CG-2	---
---	ASPHALT PAVEMENT	---
---	CONCRETE	---
N/A	PAVEMENT STRIPING	---
N/A	HANDICAP SPACE	---
N/A	PARKING BLOCK	---
N/A	STAIRS W/ HANDRAILS	---
N/A	LIMITS OF DISTURBANCE	---

Sheet Number	Sheet Title
C001	COVER SHEET
C002	GENERAL NOTES
C101	EXISTING CONDITIONS
C201	SITE PLAN
C202	SITE DETAILS
C301	GRADING PLAN
C401	ESC PLAN
C402	ESC NOTES
C403	ESC DETAILS
C501	LANDSCAPING & LIGHTING PLAN
C502	LANDSCAPING & LIGHTING DETAILS
C503	LIGHTING SPECIFICATIONS
C601	ENTRANCE & SIGHT DISTANCE PLAN
C602	TEMPORARY TRAFFIC CONTROL PLAN
SEPTIC-1	SEPTIC PERMIT -- 1
SEPTIC-2	SEPTIC PERMIT -- 2
KARST	KARST PLAN
S1	RETAINING WALL PLAN

COUNTY APPROVAL

APPROVING AUTHORITY

CHAIRMAN OF CLARKE COUNTY BOARD OF SUPERVISORS	DATE
ZONING ADMINISTRATOR	DATE
PROPERTY OWNER – STUART M. PERRY, INC.	DATE
DEVELOPER – CLARKE COUNTY – DAVID ASH	DATE

THESE PLANS ARE IN CONFORMANCE WITH CLARKE COUNTY STANDARDS AND ORDINANCES. ANY DEVIATION OR CHANGE IN THESE PLANS SHALL BE APPROVED BY THE ZONING ADMINISTRATOR PRIOR TO CONSTRUCTION.

APPROVAL OF THESE PLANS SHALL EXPIRE FIVE (5) YEARS FROM THE DATE OF PLANNING APPROVAL.

COVER SHEET
FOR
CITIZEN CONVENIENCE CENTER
CLARKE COUNTY, VIRGINIA

PROJECT NO. 03188400
LAT. 39°7'44"N
LONG. 77°54'41"W
DATE: 05/31/2017
DRAWN BY: NCP
CHECKED BY: MTC



REV. 2 23 SEP 17
REV. 1 16 AUG 17

SHEET NO.
C001

GENERAL NOTES:

- ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REQUIREMENTS.
- COMPLY WITH S59.1-406, ET SEQ. OF THE CODE OF VIRGINIA (OVERHEAD HIGH VOLTAGE LINES SAFETY ACT).
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
- ALL NECESSARY PERMITS SHALL BE ACQUIRED BEFORE STARTING CONSTRUCTION.
- ALL IMPROVEMENTS AND WORK SHALL BE SUBJECT TO INSPECTION BY OWNER, CLARKE COUNTY, VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (VA DEQ), VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT), AND OTHER AUTHORITIES HAVING JURISDICTION.
- THESE PLANS SHALL BE USED IN CONJUNCTION WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR THIS PROJECT, DATED MAY 31, 2017, REVISED SEPTEMBER 20, 2017.
- CONTRACTOR SHALL CONTACT MISS UTILITY (811) A MINIMUM OF 72 HOURS PRIOR TO ANY EARTH MOVING OR EXCAVATION ACTIVITIES.
- THIS PROJECT DOES NOT LIE WITHIN A 100-YEAR FLOOD PLAIN. FLOOD INSURANCE RATE MAP (FIRM) WAS NOT PRINTED, BECAUSE THERE WERE 'NO SPECIAL FLOOD HAZARD AREAS.' THIS INFORMATION IS FROM FIRM PANEL #51043C00070D.
- CONTRACTOR SHALL MAINTAIN DRAINAGE FACILITIES ON AND THROUGH THE SITE AT ALL TIMES DURING CONSTRUCTION. TEMPORARY FACILITIES, PUMPING ARRANGEMENTS, AND/OR CONNECTIONS REQUIRED TO MAINTAIN DRAINAGE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL COMPLY WITH CLARKE COUNTY STANDARDS.
- CONSTRUCTION TRAILER, FENCING, PARKING, AND STAGING AREAS SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER.
- MAINTAIN EMERGENCY, SERVICE, AND DELIVERY VEHICLE ACCESS TO THE SURROUNDING AREA AND COORDINATE THIS WITH THE OWNER.
- ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN THE DRAWINGS SHALL BE IMMEDIATELY REPORTED TO THE OWNER'S REPRESENTATIVE, WHO SHALL PROMPTLY CORRECT SUCH INCONSISTENCIES OR AMBIGUITIES. WORK DONE BY THE CONTRACTOR WITHOUT DIRECTION AFTER HIS DISCOVERY OF SUCH INCONSISTENCIES OR AMBIGUITIES, SHALL BE DONE AT THE CONTRACTOR'S RISK.
- MOST RECENT OSHA TRENCHING STANDARDS SHALL APPLY ON THIS PROJECT.
- WORK IN THE VDOT RIGHT-OF-WAY WILL REQUIRE A VDOT LAND USE PERMIT. A PERMIT FEE AND BOND WILL BE REQUIRED; THE CONTRACTOR WILL NEED TO SUBMIT 3 COPIES OF THE APPROVED SITE PLAN WITH THE PERMIT APPLICATION.
- BY THE END OF CONSTRUCTION, PROVIDE LEGIBLE, SURVEYED MARK-UPS OF AS-BUILT SITE CONSTRUCTION ITEMS ON SITE PLANS TO THE OWNER.

DIMENSION AND SITE FURNISHING NOTES:

- DIMENSIONS ARE PERPENDICULAR TO THE FACE OF CURB, BUILDING, SIDEWALK, AND PAVEMENT UNLESS OTHERWISE NOTED. CURVE RADII ARE 5' UNLESS OTHERWISE NOTED.
- PARKING STRIPING SHALL BE IN ACCORDANCE WITH VDOT STANDARDS.
- HANDICAP PARKING SIGNS SHALL BE IN ACCORDANCE WITH STD. DETAIL HS-1.
- CONCRETE PARKING BLOCKS SHALL BE IN ACCORDANCE WITH STD. DETAIL PB-1.
- BOLLARDS SHALL BE IN ACCORDANCE WITH STD. DETAIL BL-1.

PAVING NOTES:

- SITE CONCRETE SHALL COMPLY WITH STD. DETAIL CP-1. CONTROL JOINTS SHALL BE INSTALLED EVERY 10' (MAX), AND EXPANSION JOINTS SHALL BE INSTALLED EVERY 30' (MAX) UNLESS OTHERWISE NOTED. DOWELS SHALL BE INSTALLED AT EXPANSION JOINTS.
- ASPHALT PAVING SHALL COMPLY WITH STD. DETAIL AP-1. WHERE NEW PAVEMENT IS INSTALLED ADJACENT TO EXISTING PAVEMENT, EXISTING PAVEMENT SHALL BE SAW CUT 1' BACK FROM THE EXISTING EDGE AND PRIMED WITH VDOT APPROVED PRIMER PRIOR TO PLACEMENT OF NEW ASPHALT MATERIAL.
- ALL PAVEMENT STRIPING AND ROADWAY SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

GENERAL UTILITY NOTES:

- LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE BASED ON AVAILABLE ABOVEGROUND STRUCTURES (VALVES, MANHOLES, ETC.). FIELD VERIFY ALL EXISTING UTILITIES TO DETERMINE THAT FINAL UTILITY ARRANGEMENTS SHOWN ON THE PLANS ARE FEASIBLE PRIOR TO ORDERING MATERIALS. IF LOCATIONS OF EXISTING UTILITIES ARE FOUND TO BE IN LOCATIONS OTHER THAN THOSE INDICATED ON PLANS, CONTACT THE OWNER IN A TIMELY MANNER TO DETERMINE IF PLAN MODIFICATIONS ARE REQUIRED.
- UTILITY SERVICE MUST BE MAINTAINED THROUGHOUT CONSTRUCTION. SERVICE SHALL NOT BE INTERRUPTED WITHOUT PRIOR APPROVAL FROM THE OWNER. APPROVED PERIODS OF INTERRUPTED SERVICE SHALL BE MINIMIZED IN DURATION AND SHALL BE COORDINATED WITH THE OWNER AND UTILITY PROVIDER.
- FIELD VERIFY LOCATION AND SIZE OF EXISTING UTILITIES AT THEIR CONNECTION TO UTILITIES SHOWN ON THE PLANS AS A FIRST STEP TO SITE UTILITY CONSTRUCTION.

SANITARY SEWER NOTES:

- ALL WORK SHALL BE IN ACCORDANCE WITH THE APPROVED PERMIT (SEE SHEETS SEPTIC-1 AND SEPTIC-2)
- SANITARY SEWER PIPE AND FITTINGS SHALL BE SCH. 40 PVC, WITH SOLVENT WELD JOINTS, IN ACCORDANCE WITH THE APPROVED PERMIT. SANITARY SEWER PIPE AND FITTINGS SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH THE APPROVED PERMIT.
- SANITARY SEWER LINES SHALL BE BEDDED IN ACCORDANCE WITH THE APPROVED SEPTIC PERMIT, AND SHALL HAVE A MINIMUM OF 3' OF COVER.

STORM SEWER NOTES:

- STORM CULVERT PIPING AND FITTINGS (WHERE SHOWN ON THE PLANS) SHALL BE CLASS III REINFORCED CONCRETE PIPE IN ACCORDANCE WITH VDOT SPECIFICATIONS, UNLESS OTHERWISE NOTED.
- STORM CULVERTS (WHERE SHOWN ON THE PLANS) SHALL BE BEDDED IN ACCORDANCE WITH VDOT STD. PB-1.
- ALL STORM SEWER OR CULVERT PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

GRADING AND DRAINAGE NOTES:

- CONTOUR INTERVAL IS 2' WITH ADDITIONAL SPOT ELEVATIONS FOR CLARITY, UNLESS SHOWN OTHERWISE.
- EXISTING UTILITY TOPS SHALL BE ADJUSTED TO FINAL GRADE. UTILITY TOPS SHALL BE INSTALLED FLUSH WITH FINAL GRADE. FIELD VERIFY UTILITY STRUCTURE (MANHOLES, VALVES, ETC.) TOP ELEVATIONS PRIOR TO ORDERING MATERIALS.
- MAINTAIN DRAINAGE FACILITIES ON AND THROUGH THE SITE AT ALL TIMES DURING CONSTRUCTION. PROVIDE TEMPORARY FACILITIES, PUMPING ARRANGEMENTS, AND/OR CONNECTIONS AS REQUIRED TO MAINTAIN DRAINAGE.
- MATCH EXISTING GRADE WHERE NEW ASPHALT MEETS EXISTING ASPHALT.
- HANDICAP ACCESSIBLE ROUTES SHALL BE INSTALLED AT 5% MAX SLOPE AND 2% MAX CROSS SLOPE. HC PARKING SPACES AND AISLES SHALL BE INSTALLED AT 2% MAX SLOPE IN ANY DIRECTION.
- DISTURBED AREAS NOT TO BE PAVED SHALL BE TOPSOILED, SEEDED, AND MULCHED ACCORDING TO VESCH STANDARDS (OR LANDSCAPED AS INDICATED ON PLANS). GRADED AREAS AT A SLOPE OF 3:1 OR STEEPER SHALL HAVE SURFACE ROUGHENING ACCORDING TO VESCH STANDARDS.
- SPOT ELEVATIONS INDICATED ARE FINISHED GRADE, TOP OF PAVEMENT, OR TOP OF SIDEWALK AT THE POINT DESIGNATED BY "•".
- THE CONTRACTOR SHALL RETAIN A LICENSED INDEPENDENT GEOTECHNICAL ENGINEER AND TESTING LABORATORY TO VERIFY COMPACTION REQUIREMENTS.
- WHEN FILL OPERATIONS ARE CEASED DUE TO WEATHER (RAIN, FREEZING, SNOW, ETC.), CONSTRUCTION SHALL NOT BE RESUMED UNTIL THE GEOTECHNICAL ENGINEER HAS VERIFIED SOIL STRENGTH HAS NOT BEEN ADVERSELY AFFECTED. IF SOIL STRENGTH HAS BEEN DECREASED, THE AFFECTED PORTION OF FILL SHALL BE RESCARIFIED, MOISTENED, OR DRIED AS REQUIRED AND RECOMPACTED TO THE SPECIFIED DENSITY.
- BLASTING WILL NOT BE ALLOWED.

- ALL FILL MATERIALS SHALL BE FREE FROM MUD, REFUSE, CONSTRUCTION DEBRIS, ORGANIC MATERIAL, ROCK OR GRAVEL GREATER THAN 4 INCHES IN ANY DIMENSION, FROZEN OR OTHERWISE UNSUITABLE MATERIAL.
- ALL VEGETATION SUCH AS ROOTS, BRUSH, HEAVY SODS, HEAVY GROWTH OF GRASS, AND ALL DECAYED VEGETATIVE MATTER, RUBBISH, AND OTHER UNSATISFACTORY MATERIAL WITHIN THE AREA UPON WHICH FILL IS TO BE PLACED, SHALL BE STRIPPED OR OTHERWISE REMOVED BEFORE THE FILL IS STARTED. IN NO CASE WILL UNSATISFACTORY MATERIAL REMAIN IN OR UNDER THE FILL AREA.
- THE CUT SUBGRADE MATERIAL SHALL BE COMPACTED TO 100 PERCENT OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698. THE MOISTURE CONTENT SHOULD BE WITHIN +/- 3 PERCENTAGE POINTS OF THE MATERIAL'S OPTIMUM AS DETERMINED BY ASTM D 2216. SUB-BASE STONE SHALL BE COMPACTED TO 100 PERCENT OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698 AT OPTIMUM MOISTURE CONTENT, PER VDOT SPECIFICATIONS.

- FOR THE MAJORITY OF THE SITE, THE FILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM THEORETICAL DENSITY AS DETERMINED BY ASTM D698. MOISTURE CONTENT SHALL BE WITHIN +/- 3% OF OPTIMUM AS DETERMINED BY ASTM D2216. FOR THE FOLLOWING AREAS, THE FILL SHALL BE COMPACTED TO 98% MAXIMUM THEORETICAL DENSITY WITH MOISTURE CONTENT RANGE OF MINUS 3% OR PLUS 2% OF OPTIMUM:
 - UNDER PROPOSED ATTENDANT BUILDING
 - UNDER CONCRETE COMPACTOR/CONTAINER PAD
 - UNDER RECYCLING PAD
 - AROUND RETAINING WALL (SEE STRUCTURAL PLAN)
- TOPSOIL SHALL BE REMOVED AS REQUIRED WITHOUT CONTAMINATION WITH SUBSOIL AND STOCKPILED CONVENIENT TO AREAS FOR LATER APPLICATION OR AT LOCATIONS SPECIFIED. ANY SURPLUS OF TOPSOIL FROM EXCAVATIONS AND GRADING SHALL BE STOCKPILED IN LOCATION APPROVED BY THE OWNER. A SILT FENCE SHALL BE INSTALLED ON THE DOWNSLOPE SIDE AND THE STOCKPILES SEEDED.

- ON AREAS TO RECEIVE TOPSOIL, THE COMPACTED SUBGRADE SHALL BE SCARIFIED TO A 2-INCH DEPTH FOR BONDING OF TOPSOIL WITH SUBSOIL. TOPSOIL THEN SHALL BE SPREAD EVENLY AND GRADED TO THE ELEVATIONS AND SLOPES SHOWN. TOPSOIL SHALL NOT BE SPREAD WHEN FROZEN OR EXCESSIVELY WET OR DRY. MINIMUM TOPSOIL THICKNESS OF 4" SHALL BE PROVIDED.

- TESTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER, AND SHALL BE PERFORMED BY AN APPROVED INDEPENDENT TESTING LABORATORY QUALIFIED TO PERFORM SUCH TESTS AND APPROVED BY ENGINEER. FIELD DENSITY TESTS CONFORMING TO ASTM D 698, SHALL BE MADE BY THE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE ON EACH SOIL TYPE FOUND IN THE AREAS PREPARED TO RECEIVE FILL AND IN THE SOIL TO BE USED FOR FILL. FIELD DENSITY TESTS SHALL BE MADE BY THE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE IN ACCORDANCE WITH ASTM D 1556 OR ASTM D 2922 AND ASTM D 3017 ON THE AREAS PREPARED TO RECEIVE FILL AND ON EACH LAYER OF COMPACTED FILL.

- A MINIMUM OF ONE MOISTURE-DENSITY TEST SHALL BE PERFORMED FOR EACH TYPE OF FILL MATERIAL, AND EACH TYPE OF EXISTING SUBGRADE MATERIAL. ONE ATTERBERG LIMITS TEST AND ONE GRADATION ANALYSIS IS REQUIRED FOR EVERY SIX FIELD DENSITY TESTS. FIELD DENSITY TESTS SHALL BE PERFORMED AS FOLLOWS:
 - A MINIMUM OF ONE COMPACTION TEST PER 1,000 SQUARE FEET PER LIFT (MINIMUM OF 3 TESTS PER LIFT) FOR ALL AREAS DESIGNATED AS REQUIRING 95% COMPACTION IN NOTE 14 (ABOVE)
 - FOR REMAINDER OF THE SITE, - A MINIMUM OF ONE COMPACTION TEST PER 2,500 SQUARE FEET PER LIFT (MINIMUM 3 TESTS PER LIFT)
 - UTILITY TRENCHES - MINIMUM OF ONE COMPACTION TEST PER 50 LINEAR FEET OF TRENCH PER LIFT.

- UPON COMPLETION OF ALL EXCAVATION OF UNSUITABLE MATERIAL, AND FOR ALL FOOTINGS, THE GEOTECHNICAL ENGINEER SHALL VISUALLY INSPECT THE SUBGRADE AND EXCAVATIONS. UPON COMPLETION OF THE INSPECTION, THE GEOTECHNICAL ENGINEER SHALL PROVIDE WRITTEN NOTIFICATION TO THE OWNER.
- FOLLOWING VISUAL INSPECTION, CONTRACTOR SHALL DEMONSTRATE TO THE GEOTECHNICAL ENGINEER THAT THE EXPOSED SUBGRADE DOES NOT CONTAIN PREVIOUSLY UNIDENTIFIED SOFT AREAS BY PROOF ROLLING. PROOF ROLLING SHALL CONSIST OF ROLLING THE ENTIRE SURFACE WITH APPROVED MECHANICAL EQUIPMENT WHILE OBSERVING THE SUBGRADE FOR DISPLACEMENT OR DEFORMATION.

- ALL WORK SHALL COMPLY WITH THE RECOMMENDATIONS LISTED IN THE REPORT TITLED "GEOTECHNICAL INVESTIGATIVE REPORT ON CLARKE COUNTY CONVENIENCE CENTER, QUARRY ROAD, BERRYVILLE VIRGINIA 22611" BY HURT AND PROFFITT, INC, DATED SEPTEMBER 15, 2017

WATER QUALITY

THE PROPOSED SITE CONDITIONS WERE ANALYZED FOR STORM WATER QUALITY COMPLIANCE USING THE VRRM NEW DEVELOPMENT WORKSHEET, WHICH IS INCLUDED IN APPENDIX D. OF THE SWPPP, A TOTAL OF 1.42 (CURRENTLY FORESTED) ACRES WILL BE DISTURBED; WITH 0.56 ACRES (0.29 ACRES OF B SOILS AND 0.27 ACRES D SOILS) GOING TO IMPERVIOUS, AND 0.87 ACRES (0.30 ACRES OF B SOILS AND 0.57 OF D SOILS) TO MANAGED TURF IN THE POST-DEVELOPMENT CONDITION.

THE VRRM SPREADSHEET COMPUTATIONS SHOW THAT 1.08 LBS/YEAR OF PHOSPHORUS REMOVAL IS REQUIRED. NUTRIENT CREDITS WILL BE PURCHASED FROM THE POTOMAC WATERSHED, THROUGH RESOURCE ENVIRONMENTAL SOLUTIONS (RES), IN ORDER TO MEET THIS PHOSPHOROUS REMOVAL REQUIREMENT.

WATER QUANTITY

STORMWATER RUNOFF QUANTITY HAS BEEN ANALYZED TO EVALUATE THE PRE-DEVELOPMENT AND POST-DEVELOPMENT PEAK RUNOFF RATES AND VELOCITIES FOR THE SCS TR-55 2- AND 10-YEAR 24-HOUR STORM EVENTS. NOTE THAT A KARST LOSS MODIFICATION VALUE HAS BEEN APPLIED TO THE PRE-DEVELOPMENT CALCULATIONS, DUE TO APPROXIMATELY 20% OF THE SITE CURRENTLY BEING IN KARST COVERAGE. THE VALUES OF 0.91 AND 0.92 FOR THE 2-YEAR AND 10-YEAR STORMS, RESPECTIVELY, ARE USED FROM DEQ'S TECHNICAL BULLETIN NO. 2 - HYDROLOGIC MODELING AND DESIGN IN KARST.

THE RUNOFF FROM THE SITE MEETS THE CRITERIA OF 9VAC25-870-66 D. DRAINAGE IN THE POST-DEVELOPMENT CONDITION, SIMILAR TO THE PRE-DEVELOPMENT CONDITION, WILL SHEET FLOW OFF OF THE SITE ONTO HEAVILY WOODED GROUND COVER, WITHOUT CAUSING OR CONTRIBUTING TO EROSION, SEDIMENTATION, OR FLOODING OF DOWNGRADIENT PROPERTIES OR RESOURCES. SEE THE DRAINAGE AREA MAPS, HYDROGRAPHS, AND CROSS-SECTIONS IN APPENDIX D.

- THE NORTHEAST PORTION OF THE SITE WILL SHEET FLOW TO THE NORTH, IN A SIMILAR MANNER TO THE PRE-DEVELOPMENT CONDITION.
- THE MAJORITY OF THE OFFSITE DRAINAGE AREA TO THE WEST AND SOUTHWEST WILL BE COLLECTED BY THE PROPOSED SCC. FOR ANALYSIS, THE SCC IS DIVIDED INTO UPPER AND LOWER DITCH SECTIONS. THE 2-YEAR STORM VELOCITIES OF THE UPPER AND LOWER DITCH SECTIONS ARE 0.61 FT/SEC AND 0.47 FT/SEC, RESPECTIVELY. THE 10-YEAR STORM PEAK FLOW RATES OF THE UPPER AND LOWER DITCH SECTIONS ARE 0.50 CFS AND 5.08 CFS, RESPECTIVELY. LOWER DITCH SECTION USES THE LEVEL SPREADER HYDROGRAPH WHICH IS A POINT JUST ABOVE THE LEVEL SPREADER.

THE SCC OUTFALLS ACROSS THE PROPOSED LEVEL SPREADER, WHICH HAS ITS EDGE EMBEDDED INTO AN EMBANKMENT. THE 10-YEAR STORM PEAK FLOW RATE ACROSS THE LEVEL SPREADER WILL BE 5.08 CFS, COMPARED TO A PRE-DEVELOPMENT PEAK FLOW RATE AT THAT POINT OF 0.06 CFS (0.06 CFS X 0.92).

THE LEVEL SPREADER AND MAJORITY OF THE REMAINDER OF THE ON-SITE DRAINAGE (DA#1) OUTFALLS BY SHEET FLOW TO STUDY POINT #1 IN A SHALLOW PLAIN AT THE NORTH END OF THE LEASE SITE. THE 2-YEAR STORM VELOCITIES AT THIS POINT IN THE PRE- AND POST-DEVELOPMENT CONDITIONS ARE 0.11 FT/SEC AND 0.12 FT/SEC, RESPECTIVELY. THE 10-YEAR STORM PEAK FLOWS AT THIS POINT IN THE PRE- AND POST-DEVELOPMENT CONDITIONS ARE 3.70 CFS (4.02 CFS X 0.92) AND 3.25 CFS, RESPECTIVELY. CALCULATIONS ARE CONSERVATIVE AND DO NOT UTILIZE THE REDUCTION IN FLOW FROM PONDING AT THE LEVEL SPREADER.

- THE SOUTHEAST PORTION OF THE SITE WILL BE DRAINED BY THE PROPOSED CULVERT UNDER THE SITE'S PROPOSED ENTRANCE DRIVE OFF OF QUARRY ROAD. THE PERMANENT CULVERT OUTLET PROTECTION AT THE OUTFALL OF THIS CULVERT INTO THE EXISTING DITCH ALONG QUARRY ROAD WILL RETURN THE 10-YEAR STORM PEAK FLOW OF 0.30 CFS BACK TO SHEET FLOW. THE 2-YEAR STORM VELOCITY FROM THE CULVERT IS 0.26 FT/SEC.

PERMANENT BMP CERTIFICATION:

- RECORD DRAWINGS FOR THE PERMANENT LEVEL SPREADER ARE THE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL HAVE THE BMP INSPECTED AND CERTIFIED BY A PROFESSIONAL ENGINEER AFTER INSTALLATION. CONTRACTOR SHALL SUBMIT THE PROFESSIONALLY SEALED CERTIFICATION DOCUMENT TO THE OWNER PRIOR TO PROJECT CLOSE-OUT.

MAINTENANCE AGREEMENTS

THE VIRGINIA STORMWATER MANAGEMENT REGULATIONS (4 VAC 50-60-112) SPECIFY THE CIRCUMSTANCES UNDER WHICH A MAINTENANCE AGREEMENT MUST BE EXECUTED BETWEEN THE OWNER AND THE VSMP AUTHORITY, AND SETS FORTH INSPECTION REQUIREMENTS, COMPLIANCE PROCEDURES IF MAINTENANCE IS NEGLECTED, NOTIFICATION OF THE LOCAL PROGRAM UPON TRANSFER OF OWNERSHIP, AND RIGHT-OF-ENTRY FOR LOCAL PROGRAM PERSONNEL.

- ALL VEGETATED FILTER STRIPS MUST BE COVERED BY A LONG TERM MAINTENANCE AGREEMENT AND DRAINAGE EASEMENT CONSISTENT WITH THE PROVISIONS OF THE VSMP REGULATIONS TO ALLOW INSPECTION AND MAINTENANCE.
- CONSERVED OPEN SPACE SHALL BE PROTECTED BY A PERPETUAL EASEMENT, DEED RESTRICTION, OR OTHER MECHANISM ENFORCEABLE BY THE VSMP AUTHORITY THAT ASSIGNS THE RESPONSIBLE PARTY TO ENSURE THAT NO FUTURE DEVELOPMENT, DISTURBANCE OR CLEARING MAY OCCUR WITHIN THE AREA, EXCEPT AS STIPULATED IN THE VEGETATION MAINTENANCE PLAN.
- THE EXISTENCE AND PURPOSE OF THE OPEN SPACE SHALL BE NOTED ON THE DEED OF RECORD, AND THE OWNERS SHALL BE PROVIDED A SIMPLE DOCUMENT THAT EXPLAINS THE PURPOSE OF THE OPEN SPACE AND ROUTINE MAINTENANCE NEEDS.

IN CASES OF BOTH VEGETATED FILTER STRIPS AND CONSERVED OPEN SPACE, THE PROTECTIVE MECHANISM FOR ENSURING MAINTENANCE SHOULD, IF POSSIBLE, GRANT AUTHORITY FOR LOCAL AGENCIES TO ACCESS THE PROPERTY FOR INSPECTION OR CORRECTIVE ACTION. MAINTENANCE AGREEMENT CAN BE FOUND IN APPENDIX E OF THE SWPPP NARRATIVE.

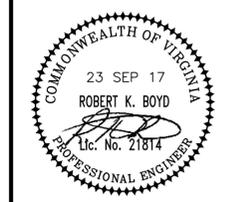
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GENERAL NOTES
 FOR
CITIZEN CONVENIENCE CENTER
 CLARKE COUNTY, VIRGINIA

PROJECT NO.	03188400
LAT.	39°7'44"N
LONG.	77°54'41"W
DATE:	05/31/2017
DRAWN BY:	NCP
CHECKED BY:	MTG



REV. 2	23 SEP 17
REV. 1	16 AUG 17

SHEET NO.
C002

Sep 25, 2017 - 1:28pm \\MAPROJECTS\Projects\311884\31884-ENGINEERING\Design\Plans\31884_Sheet_Notes.dwg

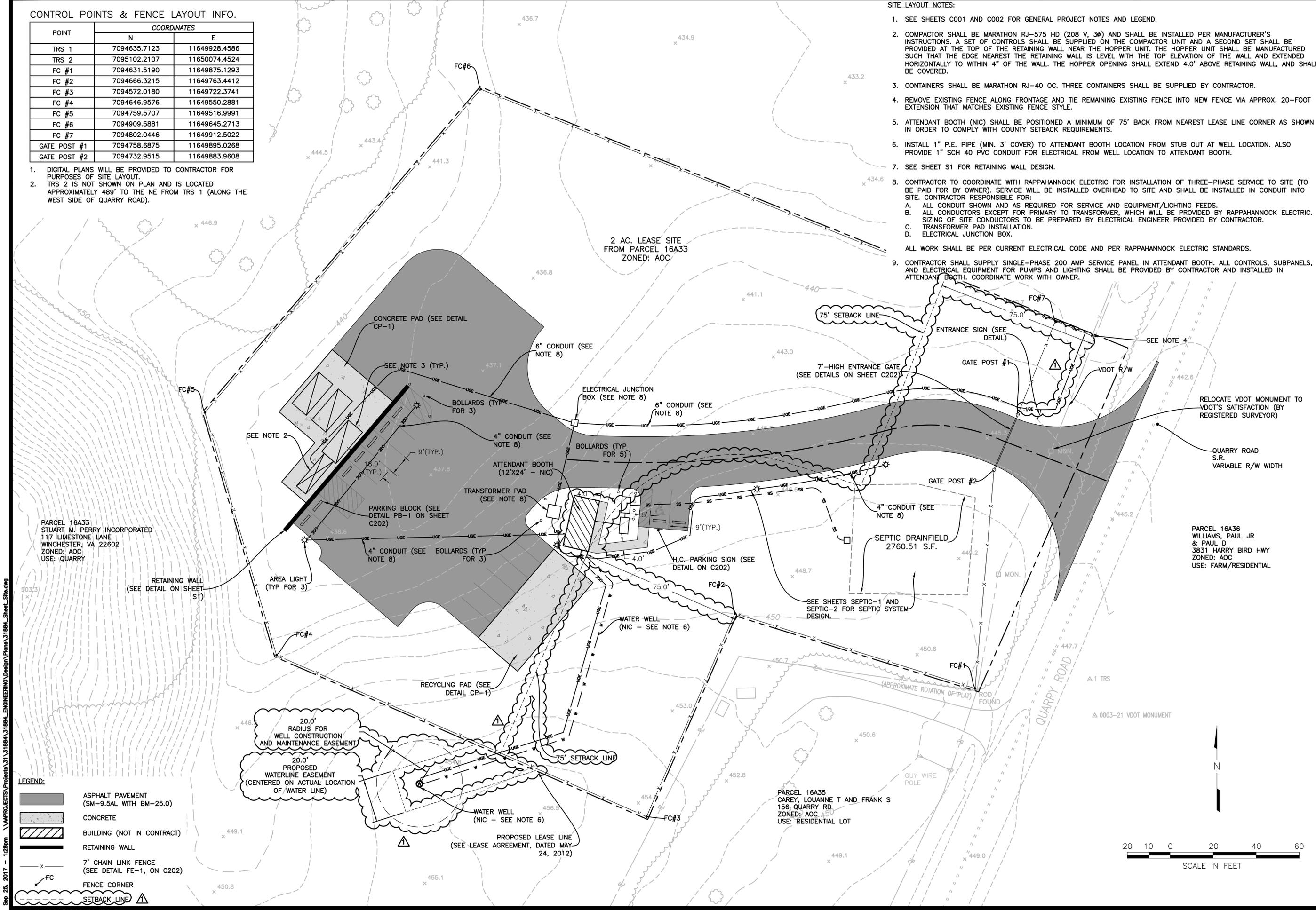
CONTROL POINTS & FENCE LAYOUT INFO.

POINT	COORDINATES	
	N	E
TRS 1	7094635.7123	11649928.4586
TRS 2	7095102.2107	11650074.4524
FC #1	7094631.5190	11649875.1293
FC #2	7094666.3215	11649763.4412
FC #3	7094572.0180	11649722.3741
FC #4	7094646.9576	11649550.2881
FC #5	7094759.5707	11649516.9991
FC #6	7094909.5881	11649645.2713
FC #7	7094802.0446	11649912.5022
GATE POST #1	7094758.6875	11649895.0268
GATE POST #2	7094732.9515	11649883.9608

- DIGITAL PLANS WILL BE PROVIDED TO CONTRACTOR FOR PURPOSES OF SITE LAYOUT.
- TRS 2 IS NOT SHOWN ON PLAN AND IS LOCATED APPROXIMATELY 489' TO THE NE FROM TRS 1 (ALONG THE WEST SIDE OF QUARRY ROAD).

SITE LAYOUT NOTES:

- SEE SHEETS C001 AND C002 FOR GENERAL PROJECT NOTES AND LEGEND.
- COMPACTOR SHALL BE MARATHON RJ-575 HD (208 V, 3 ϕ) AND SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. A SET OF CONTROLS SHALL BE SUPPLIED ON THE COMPACTOR UNIT AND A SECOND SET SHALL BE PROVIDED AT THE TOP OF THE RETAINING WALL NEAR THE HOPPER UNIT. THE HOPPER UNIT SHALL BE MANUFACTURED SUCH THAT THE EDGE NEAREST THE RETAINING WALL IS LEVEL WITH THE TOP ELEVATION OF THE WALL AND EXTENDED HORIZONTALLY TO WITHIN 4" OF THE WALL. THE HOPPER OPENING SHALL EXTEND 4.0' ABOVE RETAINING WALL, AND SHALL BE COVERED.
- CONTAINERS SHALL BE MARATHON RJ-40 OC. THREE CONTAINERS SHALL BE SUPPLIED BY CONTRACTOR.
- REMOVE EXISTING FENCE ALONG FRONTAGE AND TIE REMAINING EXISTING FENCE INTO NEW FENCE VIA APPROX. 20-FOOT EXTENSION THAT MATCHES EXISTING FENCE STYLE.
- ATTENDANT BOOTH (NIC) SHALL BE POSITIONED A MINIMUM OF 75' BACK FROM NEAREST LEASE LINE CORNER AS SHOWN IN ORDER TO COMPLY WITH COUNTY SETBACK REQUIREMENTS.
- INSTALL 1" P.E. PIPE (MIN. 3' COVER) TO ATTENDANT BOOTH LOCATION FROM STUB OUT AT WELL LOCATION. ALSO PROVIDE 1" SCH 40 PVC CONDUIT FOR ELECTRICAL FROM WELL LOCATION TO ATTENDANT BOOTH.
- SEE SHEET S1 FOR RETAINING WALL DESIGN.
- CONTRACTOR TO COORDINATE WITH RAPPAHANNOCK ELECTRIC FOR INSTALLATION OF THREE-PHASE SERVICE TO SITE (TO BE PAID FOR BY OWNER). SERVICE WILL BE INSTALLED OVERHEAD TO SITE AND SHALL BE INSTALLED IN CONDUIT INTO SITE. CONTRACTOR RESPONSIBLE FOR:
 - ALL CONDUIT SHOWN AND AS REQUIRED FOR SERVICE AND EQUIPMENT/LIGHTING FEEDS.
 - ALL CONDUCTORS EXCEPT FOR PRIMARY TO TRANSFORMER, WHICH WILL BE PROVIDED BY RAPPAHANNOCK ELECTRIC.
 - TRANSFORMER PAD INSTALLATION.
 - ELECTRICAL JUNCTION BOX.
 ALL WORK SHALL BE PER CURRENT ELECTRICAL CODE AND PER RAPPAHANNOCK ELECTRIC STANDARDS.
- CONTRACTOR SHALL SUPPLY SINGLE-PHASE 200 AMP SERVICE PANEL IN ATTENDANT BOOTH. ALL CONTROLS, SUBPANELS, AND ELECTRICAL EQUIPMENT FOR PUMPS AND LIGHTING SHALL BE PROVIDED BY CONTRACTOR AND INSTALLED IN ATTENDANT BOOTH. COORDINATE WORK WITH OWNER.



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LEGEND:

- ASPHALT PAVEMENT (SM-9.5AL WITH BM-25.0)
- CONCRETE
- BUILDING (NOT IN CONTRACT)
- RETAINING WALL
- 7' CHAIN LINK FENCE (SEE DETAIL FE-1, ON C202)
- FENCE CORNER
- SETBACK LINE



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SITE PLAN
 FOR
CITIZEN CONVENIENCE CENTER
 CLARKE COUNTY, VIRGINIA

PROJECT NO.	03188400
LAT.	39°7'44"N
LONG.	77°54'41"W
DATE:	05/31/2017
DRAWN BY:	NCP
CHECKED BY:	MTC

COMMONWEALTH OF VIRGINIA

23 SEP 17

ROBERT K. BOYD

Lic. No. 21814

PROFESSIONAL ENGINEER

REV. 2	23 SEP 17
REV. 1	16 AUG 17

SHEET NO.
C201

PROPOSED SEQUENCE OF CONSTRUCTION

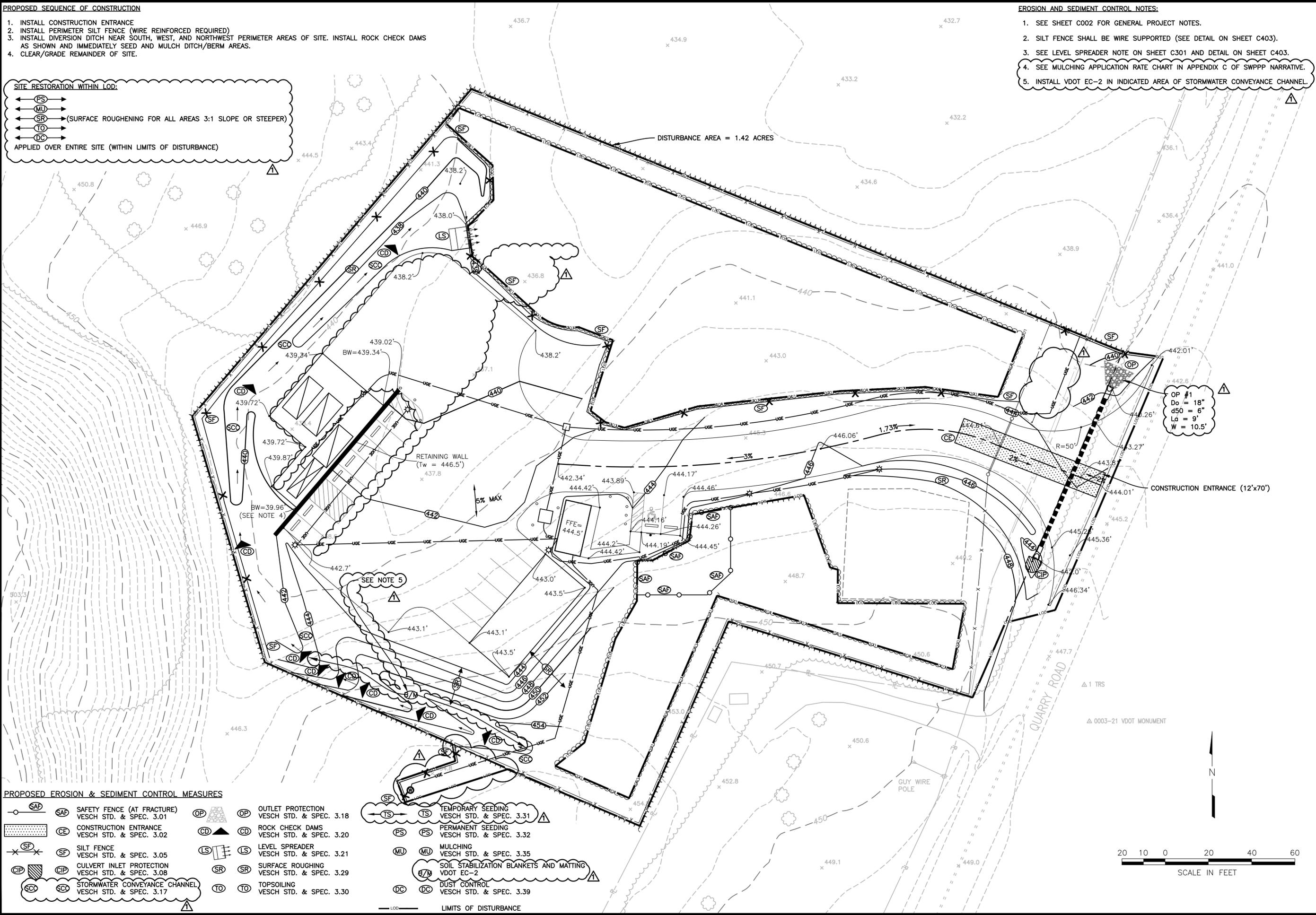
1. INSTALL CONSTRUCTION ENTRANCE
2. INSTALL PERIMETER SILT FENCE (WIRE REINFORCED REQUIRED)
3. INSTALL DIVERSION DITCH NEAR SOUTH, WEST, AND NORTHWEST PERIMETER AREAS OF SITE. INSTALL ROCK CHECK DAMS AS SHOWN AND IMMEDIATELY SEED AND MULCH DITCH/BERM AREAS.
4. CLEAR/GRADE REMAINDER OF SITE.

SITE RESTORATION WITHIN LOD:

- ← PS →
 - ← MU →
 - ← SR → (SURFACE ROUGHENING FOR ALL AREAS 3:1 SLOPE OR STEEPER)
 - ← TO →
 - ← DC →
- APPLIED OVER ENTIRE SITE (WITHIN LIMITS OF DISTURBANCE)

EROSION AND SEDIMENT CONTROL NOTES:

1. SEE SHEET C002 FOR GENERAL PROJECT NOTES.
2. SILT FENCE SHALL BE WIRE SUPPORTED (SEE DETAIL ON SHEET C403).
3. SEE LEVEL SPREADER NOTE ON SHEET C301 AND DETAIL ON SHEET C403.
4. SEE MULCHING APPLICATION RATE CHART IN APPENDIX C OF SWPPP NARRATIVE.
5. INSTALL VDOT EC-2 IN INDICATED AREA OF STORMWATER CONVEYANCE CHANNEL.



PROPOSED EROSION & SEDIMENT CONTROL MEASURES

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> ○ SAFETY FENCE (AT FRACTURE) VESCH STD. & SPEC. 3.01 ▨ CONSTRUCTION ENTRANCE VESCH STD. & SPEC. 3.02 ⊗ SILT FENCE VESCH STD. & SPEC. 3.05 ⊘ CULVERT INLET PROTECTION VESCH STD. & SPEC. 3.08 ⊚ STORMWATER CONVEYANCE CHANNEL VESCH STD. & SPEC. 3.17 | <ul style="list-style-type: none"> ⊙ OUTLET PROTECTION VESCH STD. & SPEC. 3.18 ⊠ ROCK CHECK DAMS VESCH STD. & SPEC. 3.20 ⊞ LEVEL SPREADER VESCH STD. & SPEC. 3.21 ⊡ SURFACE ROUGHENING VESCH STD. & SPEC. 3.29 ⊢ TOPSOILING VESCH STD. & SPEC. 3.30 | <ul style="list-style-type: none"> ⊣ TEMPORARY SEEDING VESCH STD. & SPEC. 3.31 ⊤ PERMANENT SEEDING VESCH STD. & SPEC. 3.32 ⊥ MULCHING VESCH STD. & SPEC. 3.35 ⊦ SOIL STABILIZATION BLANKETS AND MATTING VDOT EC-2 ⊧ DUST CONTROL VESCH STD. & SPEC. 3.39 |
|--|--|---|
- LOD — LIMITS OF DISTURBANCE

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ESC PLAN
 FOR
CITIZEN CONVENIENCE CENTER
 CLARKE COUNTY, VIRGINIA

PROJECT NO.	03188400
LAT.	39°7'44"N
LONG.	77°54'41"W
DATE:	05/31/2017
DRAWN BY:	NCP
CHECKED BY:	MTC

COMMONWEALTH OF VIRGINIA
 23 SEP 17
 ROBERT K. BOYD
 Lic. No. 21814
 PROFESSIONAL ENGINEER

REV. 2	23 SEP 17
REV. 1	16 AUG 17

SHEET NO. C401

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EROSION AND SEDIMENT CONTROL NOTES:

- UPON AWARD OF THE CONTRACT AND PRIOR TO ANY LAND DISTURBANCE, DESIGNATE A PERSON WHO IS CERTIFIED BY THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) AS A RESPONSIBLE LAND DISTURBER (RLD) FOR THIS PROJECT. NOTIFY CLARKE COUNTY, DEQ AND HURT & PROFFITT, INC. IN WRITING OF THIS DESIGNATION. NAME OF RLD AND CERTIFICATE NUMBER SHALL BE HANDWRITTEN ON THE APPROVED PLANS AT THE PRE-CONSTRUCTION MEETING.
- THE RESPONSIBLE LAND DISTURBER SHALL INSPECT EROSION AND SEDIMENT CONTROL DEVICES AND MEASURES FOR PROPER INSTALLATION AND DEFICIENCIES IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY WHEN NO RAINFALL EVENT OCCURS. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION AND SEDIMENT CONTROL DEVICES SHALL BE MADE IMMEDIATELY. THE RLD SHALL SUBMIT EVIDENTIARIES OF INSPECTIONS WITH MONTHLY REPORTS TO THE OWNER OR WITHIN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
- PLACE ALL EROSION AND SEDIMENT CONTROL MEASURES, SPECIFICALLY SEDIMENT TRAPS, PRIOR TO OR AS THE FIRST STEP IN SITE OPERATIONS.
- UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS (IN ADDITION TO OTHER APPLICABLE CRITERIA):
 - NO MORE THAN 50' OF TRENCH MAY BE OPEN AT ONE TIME.
 - EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCH.
 - MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
 - RESTALLIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE LATEST EDITION OF VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH).
 - ALL APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
 - EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
 - DURING DEWATERING OPERATIONS, PUMP WATER INTO AN APPROVED FILTERING DEVICE.
- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION (VESCH), AND VIRGINIA REGULATIONS 9VAC25-840 EROSION AND SEDIMENT CONTROL REGULATIONS.
- NOTIFY THE PLAN APPROVING AUTHORITY ONE WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
- THE NARRATIVE PREPARED FOR THIS PLAN IS PART OF THE PLANS AND SHALL BE USED IN CONJUNCTION WITH THE PLANS. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN NARRATIVE AND THE VESCH, SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), SUBMIT A SUPPLEMENTARY EROSION AND SEDIMENT CONTROL PLAN FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY. DISPOSE OF EXCESS MATERIALS IN A LEGAL, APPROVED SITE.
- INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AS REQUIRED TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING THE SITE, AND AS DICTATED BY THE PLAN APPROVING AUTHORITY OR ENGINEER.
- ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT TRAPPING MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- AS THE EROSION CONTROL PLAN APPROVING AUTHORITY, CLARKE COUNTY MAY CHANGE THE APPROVED PLAN IF INSPECTION REVEALS THAT THE APPROVED PLAN IS INADEQUATE TO SATISFY APPLICABLE REGULATIONS.
- STORE EXCAVATED TOPSOIL IN TOPSOIL STOCKPILES WITHIN THE LIMITS OF CONSTRUCTION, IN COORDINATION WITH THE OWNER. PROTECT STOCKPILE WITH SILT FENCE IN ACCORDANCE WITH VESCH STANDARDS.
- FOR ALL DISTURBED AREAS THAT ARE NOT PAVED, SEED IN ACCORDANCE WITH THE SPECIFICATIONS, & THE VESCH, LATEST EDITION.
- SEED AND STRAW MULCH ALL SOIL STOCKPILES LEFT UNDISTURBED MORE THAN 14 DAYS.
- PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION. ANY AREAS THAT DO NOT ESTABLISH WILL REQUIRE ADDITIONAL STABILIZATION.
- STABILIZE EARTHEN STRUCTURES SUCH AS DIVERSIONS, BASIN EMBANKMENTS, ETC. IMMEDIATELY AFTER INSTALLATION.
- CUT AND FILL SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION MUST BE PROVIDED WITH ADDITIONAL STABILIZATION MEASURES UNTIL THE PROBLEM IS CORRECTED.
- WHERE CONSTRUCTION VEHICLES ACCESS PAVED OR PUBLIC ROADS, PROVISIONS MUST BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT. ANY SEDIMENT WHICH IS TRACKED ONTO PUBLIC ROADS MUST BE REMOVED FROM THE ROADS AT THE END OF EACH DAY, BY EITHER SHOVELING OR SWEEPING, AND TRANSPORTED TO AN APPROVED DISPOSAL AREA.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MUST BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. ANY AREAS THAT ARE DISTURBED AS THE RESULT OF REMOVAL OF TEMPORARY PRACTICES MUST BE RESTABILIZED ACCORDING TO VESCH STANDARD AND SPECIFICATION 3.32. TRAPPED SEDIMENT MUST BE EITHER REDISTRIBUTED OR TRANSFERRED TO AN APPROVED DISPOSAL SITE.
- THE PROJECT LIMITS OF DISTURBANCE SHALL BE MARKED AS AN EARLY STEP IN THE SEQUENCE OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOILS.

9VAC25-840-40. MINIMUM STANDARDS

THE FOLLOWING STANDARDS ARE TO BE PROVIDED OR ADDRESSED ON EVERY DEVELOPMENT PROJECT EXCEEDING 10000 S.F. IN AREA OF DISTURBANCE. THESE STANDARDS ARE CONSIDERED A MINIMUM AND MAY REQUIRE ADDITIONAL MEASURES AS DEEMED NECESSARY BY THE LOCAL APPROVING AUTHORITY OR THE CONSULTING ENGINEER

NO.	A VESCP MUST BE CONSISTENT WITH THE FOLLOWING CRITERIA, TECHNIQUES AND METHODS:	PRACTICES PROVIDED
1	PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.	(TS) (MU) (SR) (A)
2	DURING CONSTRUCTION OF THE PROJECT, SOIL STOCK PILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.	(TS) (MU) (SR) (A)
3	A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.	(SF) (TO) (PS) (MU) (SR) (A)
4	SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.	(SF) (CD)
5	STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.	(SCC) (TO) (PS) (MU) (SR) (A)
6	SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN. A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES. B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A 25-YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS UTILIZED.	NOT APPLICABLE
7	CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.	(TO) (PS) (MU)
8	CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.	NOT APPLICABLE
9	WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.	NOT APPLICABLE
10	ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.	(IP)
11	BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.	(SCC) (E/M) (TO) (PS) (MU) (SR) (A)
12	WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.	NOT APPLICABLE
13	WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.	NOT APPLICABLE
14	ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.	NOT APPLICABLE
15	THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.	NOT APPLICABLE
16	UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA: A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME. B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES. C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY. D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION. E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THIS CHAPTER. F. APPLICABLE SAFETY REQUIREMENTS SHALL BE COMPLIED WITH.	(SF) (IP)
17	WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.	(CE)
18	ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE VESCP AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.	(SF) (IP) (CE)
19	PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA. STREAM RESTORATION AND RELOCATION PROJECTS THAT INCORPORATE NATURAL CHANNEL DESIGN CONCEPTS ARE NOT MAN-MADE CHANNELS AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS: a. CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED. b. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER: (1) THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS ONE HUNDRED TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION; OR (2) (A) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS. (B) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND (C) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM. c. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL: (1) IMPROVE THE CHANNELS TO A CONDITION WHERE A TEN-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL, THE BED, OR THE BANKS; OR (2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES; (3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR (4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE VESCP AUTHORITY TO PREVENT DOWNSTREAM EROSION. d. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS. e. ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT CONDITION OF THE SUBJECT PROJECT. f. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION, HE SHALL OBTAIN APPROVAL FROM THE VESCP OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE. g. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL. h. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE. i. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY. j. IN APPLYING THESE STORMWATER MANAGEMENT CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS. k. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE. l. ANY PLAN APPROVED PRIOR TO JULY 1, 2014, THAT PROVIDES FOR STORMWATER MANAGEMENT THAT ADDRESSES ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS SHALL SATISFY THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS IF THE PRACTICES ARE DESIGNED TO (I) DETAIN THE WATER QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS; (II) DETAIN AND RELEASE OVER A 24-HOUR PERIOD THE EXPECTED RAINFALL RESULTING FROM THE ONE YEAR, 24-HOUR STORM; AND (III) REDUCE THE ALLOWABLE PEAK FLOW RATE RESULTING FROM THE 1.5, 2, AND 10-YEAR, 24-HOUR STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO THE PEAK FLOW RATE FROM THE SITE ASSUMING IT WAS IN A GOOD FORESTED CONDITION, ACHIEVED THROUGH MULTIPLICATION OF THE FORESTED PEAK FLOW RATE BY A REDUCTION FACTOR THAT IS EQUAL TO THE RUNOFF VOLUME FROM THE SITE WHEN IT WAS IN A GOOD FORESTED CONDITION DIVIDED BY THE RUNOFF VOLUME FROM THE SITE IN ITS PROPOSED CONDITION, AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS AS DEFINED IN ANY REGULATIONS PROMULGATED PURSUANT TO § 62.1-44.15:54 OR 62.1-44.15:65 OF THE ACT. m. FOR PLANS APPROVED ON AND AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 62.1-44.15:52 A OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY COMPLIANCE WITH WATER QUANTITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (§ 62.1-44.15:24 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDANT REGULATIONS, UNLESS SUCH LAND-DISTURBING ACTIVITIES ARE IN ACCORDANCE WITH 9VAC25-870-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATIONS. n. COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-870-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATIONS SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF SUBDIVISION 19 OF THIS SUBSECTION.	STORMWATER CALCULATIONS ARE INCLUDED IN THE STORMWATER MANAGEMENT NARRATIVE.

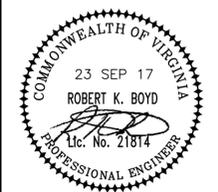
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ESC NOTES
 FOR
CITIZEN CONVENIENCE CENTER
 CLARKE COUNTY, VIRGINIA

PROJECT NO.	03188400
LAT.	39°7'44"N
LONG.	77°54'41"W
DATE:	05/31/2017
DRAWN BY:	NCP
CHECKED BY:	MTC



REV. 2	23 SEP 17
REV. 1	16 AUG 17

SHEET NO.
C402

Sep 25, 2017 - 1:26pm \\AP\PROJECTS\Projects\311884\311884_ENGINEERING\Design\Plan\311884_Sheet_ESC_Notes.dwg

PLANT SCHEDULE

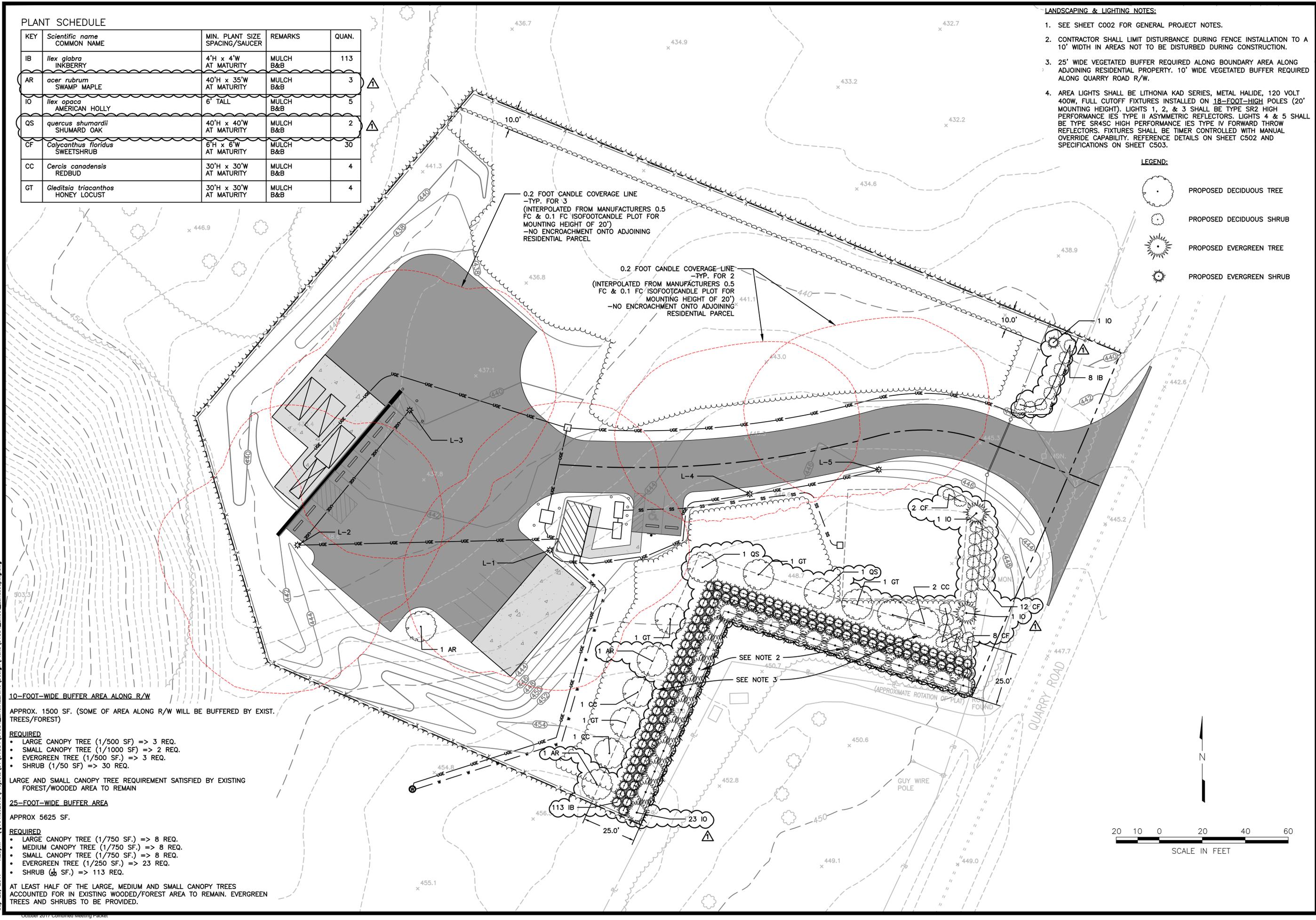
KEY	Scientific name COMMON NAME	MIN. PLANT SIZE SPACING/SAUCER	REMARKS	QUAN.
IB	<i>Ilex glabra</i> INKBERRY	4'H x 4'W AT MATURITY	MULCH B&B	113
AR	<i>Acer rubrum</i> SWAMP MAPLE	40'H x 35'W AT MATURITY	MULCH B&B	3
IO	<i>Ilex opaca</i> AMERICAN HOLLY	6' TALL	MULCH B&B	5
QS	<i>Quercus shumardii</i> SHUMARD OAK	40'H x 40'W AT MATURITY	MULCH B&B	2
CF	<i>Calycanthus floridus</i> SWEETSHRUB	6'H x 6'W AT MATURITY	MULCH B&B	30
CC	<i>Cercis canadensis</i> REDBUD	30'H x 30'W AT MATURITY	MULCH B&B	4
GT	<i>Gleditsia triacanthos</i> HONEY LOCUST	30'H x 30'W AT MATURITY	MULCH B&B	4

LANDSCAPING & LIGHTING NOTES:

- SEE SHEET C002 FOR GENERAL PROJECT NOTES.
- CONTRACTOR SHALL LIMIT DISTURBANCE DURING FENCE INSTALLATION TO A 10' WIDTH IN AREAS NOT TO BE DISTURBED DURING CONSTRUCTION.
- 25' WIDE VEGETATED BUFFER REQUIRED ALONG BOUNDARY AREA ALONG ADJOINING RESIDENTIAL PROPERTY. 10' WIDE VEGETATED BUFFER REQUIRED ALONG QUARRY ROAD R/W.
- AREA LIGHTS SHALL BE LITHONIA KAD SERIES, METAL HALIDE, 120 VOLT 400W, FULL CUTOFF FIXTURES INSTALLED ON 18-FOOT-HIGH POLES (20' MOUNTING HEIGHT). LIGHTS 1, 2, & 3 SHALL BE TYPE SR2 HIGH PERFORMANCE IES TYPE II ASYMMETRIC REFLECTORS. LIGHTS 4 & 5 SHALL BE TYPE SR4SC HIGH PERFORMANCE IES TYPE IV FORWARD THROW REFLECTORS. FIXTURES SHALL BE TIMER CONTROLLED WITH MANUAL OVERRIDE CAPABILITY. REFERENCE DETAILS ON SHEET C502 AND SPECIFICATIONS ON SHEET C503.

LEGEND:

-  PROPOSED DECIDUOUS TREE
-  PROPOSED DECIDUOUS SHRUB
-  PROPOSED EVERGREEN TREE
-  PROPOSED EVERGREEN SHRUB



10-FOOT-WIDE BUFFER AREA ALONG R/W
 APPROX. 1500 SF. (SOME OF AREA ALONG R/W WILL BE BUFFERED BY EXIST. TREES/FOREST)

REQUIRED

- LARGE CANOPY TREE (1/500 SF.) => 3 REQ.
- SMALL CANOPY TREE (1/1000 SF.) => 2 REQ.
- EVERGREEN TREE (1/500 SF.) => 3 REQ.
- SHRUB (1/50 SF.) => 30 REQ.

LARGE AND SMALL CANOPY TREE REQUIREMENT SATISFIED BY EXISTING FOREST/WOODED AREA TO REMAIN

25-FOOT-WIDE BUFFER AREA
 APPROX 5625 SF.

REQUIRED

- LARGE CANOPY TREE (1/750 SF.) => 8 REQ.
- MEDIUM CANOPY TREE (1/750 SF.) => 8 REQ.
- SMALL CANOPY TREE (1/750 SF.) => 8 REQ.
- EVERGREEN TREE (1/250 SF.) => 23 REQ.
- SHRUB (1/50 SF.) => 113 REQ.

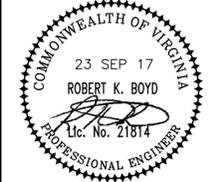
AT LEAST HALF OF THE LARGE, MEDIUM AND SMALL CANOPY TREES ACCOUNTED FOR IN EXISTING WOODED/FOREST AREA TO REMAIN. EVERGREEN TREES AND SHRUBS TO BE PROVIDED.

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LANDSCAPING & LIGHTING PLAN
 FOR
CITIZEN CONVENIENCE CENTER
 CLARKE COUNTY, VIRGINIA

PROJECT NO.	03188400
LAT.	39°7'44"N
LONG.	77°54'41"W
DATE:	05/31/2017
DRAWN BY:	NCP
CHECKED BY:	MTC

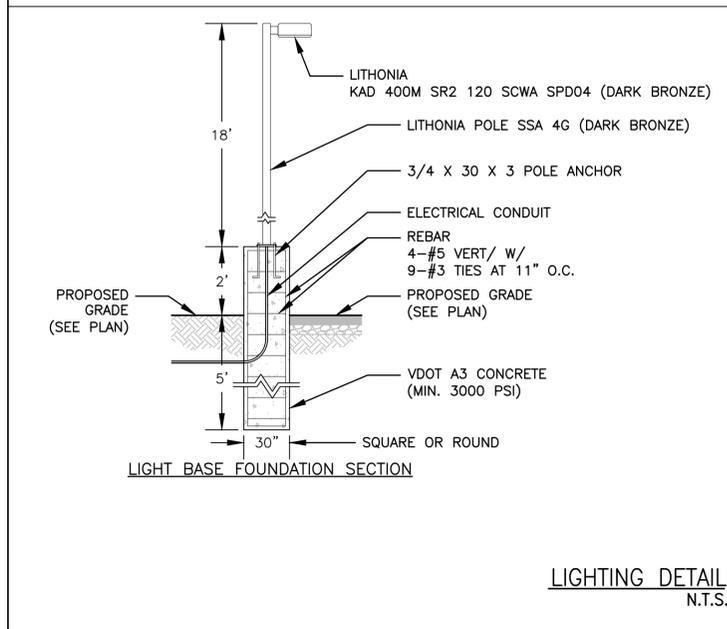
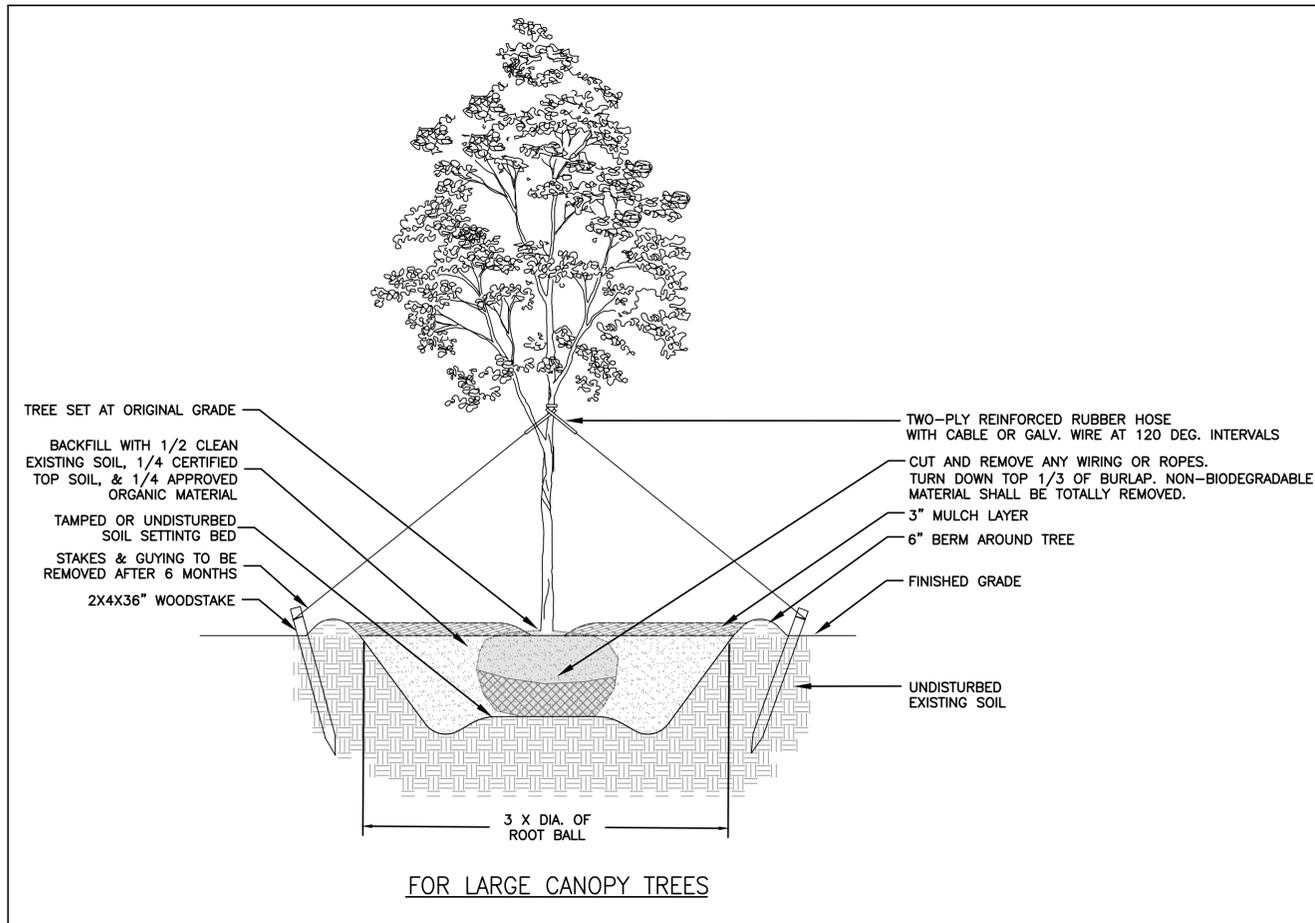
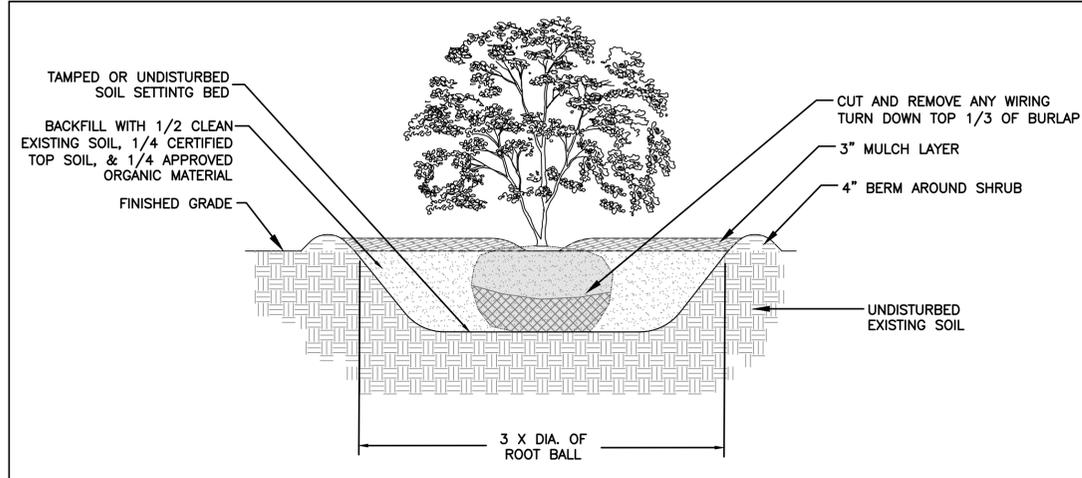


REV. 2	23 SEP 17
REV. 1	16 AUG 17

SHEET NO.
C501

LANDSCAPING NOTES:

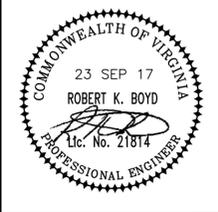
1. ALL PLANTING BEDS AND TREE SAUCERS SHALL BE MULCHED TO A MINIMUM DEPTH OF 4" WITH SHREDDED BARK MULCH. PLANTING BEDS SHALL BE SUBSTANTIALLY FREE OF FOREIGN MATTER.
2. ALL PLANT MATERIALS SHALL CONFORM TO THE STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN AND MUST BE APPROVED BY THE LANDSCAPE ARCHITECT OR THE OWNER.
3. "SAUCER RADIUS" REFERS TO A CIRCULAR AREA AROUND THE ROOT BALL OF EACH NEW TREE, TILLED PRIOR TO INSTALLATION TO A MINIMUM DEPTH OF ONE FOOT, TREATED, AND MULCHED.
4. SOIL IN PLANTING BEDS AND TREE SAUCERS SHALL BE TESTED FOR PH AND NUTRIENT AVAILABILITY AND AMENDED AS NECESSARY USING ORGANIC FERTILIZERS.
5. ALL TREES SHALL BE PLANTED IN GOOD CONDITION AND MEET "AMERICAN STANDARD FOR NURSERY STOCK" (1990), ANSI Z60.1-1990, AS MAY BE AMENDED.
6. THE PLANTING OF TREES SHALL BE DONE IN ACCORDANCE WITH THE STANDARDIZED LANDSCAPE SPECIFICATIONS JOINTLY ADOPTED BY THE VIRGINIA NURSERYMEN'S ASSOCIATION, THE SOCIETY OF LANDSCAPE DESIGNERS AND VIRGINIA CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS.



LIGHTING DETAIL
N.T.S.

LANDSCAPING & LIGHTING DETAILS
FOR
CITIZEN CONVENIENCE CENTER
CLARKE COUNTY, VIRGINIA

PROJECT NO.	03188400
LAT.	39° 7' 44" N
LONG.	77° 54' 41" W
DATE:	05/31/2017
DRAWN BY:	NCP
CHECKED BY:	MTC



REV. 2 23 SEP 17

SHEET NO.
C502

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FEATURES & SPECIFICATIONS

INTENDED USE - Ideal for parking areas, street lighting, walkways and car lots.

CONSTRUCTION - Rugged, die-cast, soft corner aluminum housing with 0.12" nominal wall thickness. Die-cast door frame has impact resistant, tempered, glass lens that is fully gasketed with one-piece tubular silicone. Finish: Standard finish is dark bronze (DB) polyester powder finish, with other architectural colors available. OPTICS - Anodized, aluminum reflectors:IES full cutoff distributions R2 (asymmetric), R3 (asymmetric), R4 (forward throw) and RS5 (square) are interchangeable. High performance anodized, segmented aluminum reflectors:IES full cutoff distributions SR2 (asymmetric), SR3 (asymmetric) and SR4SC (forward throw, sharp cutoff). High performance reflectors attach with hook-less fasteners and are rotatable and interchangeable. ELECTRICAL - Ballast: High pressure sodium: 250W high performance, high power factor. Constant wattage autotransformer for 200-400W. Constant wattage autotransformer for 250-400W. Super CWA (pulse start ballast), DOE 2017 compliant, is required for metal halide 250-400W (SCWA option) for US shipments only. CSA, NEMA or IHLI required for probe start shipments outside of the US. Ballast is 100% factory tested. Socket: Integral base socket for 250W and 400W, and 70-400W, with copper alloy, nickel-plated screw shell and center contact. UL listed 1500W, 600V.

LISTINGS - UL Listed (standard), CSA Certified (see Options), UL listed for 25°C ambient and wet locations. IP65 rated in accordance with standard IEC 529.

WARRANTY - 1 year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomerResources/terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

Form with fields for Catalog Number, Notes, and Type.



CONTOUR LIGHTS

Soft Square Lighting

KAD

Specifications: METAL HALIDE: 250-400W HIGH PRESSURE SODIUM: 70-400W 20" TO 35" MOUNTING. EPA: 1.2 ft. Weight: 35.9 lbs (16.28 kg) Length: 17-1/2" (44.5) Width: 7-1/2" (44.5) Depth: 7-1/8" (18.1) All dimensions are inches (centimeters) unless otherwise specified. *Weight as configured in example below.

ORDERING INFORMATION

For shortest lead times, configure product using bolded options.

Example: KAD 400M R3 TB SCWA SPD04 LPI

Table with columns: KAD, Series, Wattage, Distribution, Voltage, Ballast, Mounting, Arm length. Includes options for reflectors, ballasts, and mounting.

Table with columns: Options, Finish, Lamp. Includes options for shipping, CSA, IHLI, PER, PD, PDR, QRS, QRS-D, WTB.

Table with columns: Accessories, Tenon Mounting, Number of fixtures, Tenon O.D., Tenon Length.

OUTDOOR KAD-M-S

REFLECTOR TYPE NOTES:

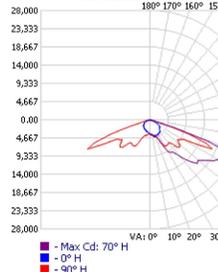
- 1. TYPE SR2 - TO BE USED ON LIGHTS 1, 2, & 3 AROUND THE COMPACTOR AND PARKING AREA.
2. TYPE SR4SC - TO BE USED ON LIGHTS 4 & 5 ALONG ENTRANCE ROAD.

OUTDOOR PHOTOMETRIC REPORT

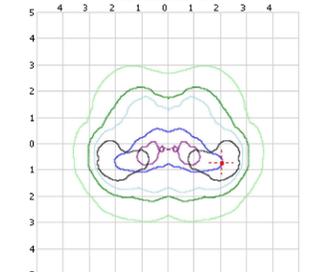
CATALOG: KAD 400M SR2 (PULSE START) TEST #: LTL9475P SCALED PHOTOMETRY TEST LAB: 5/11/2009 TEST DATE: KAD 400M SR2 (PULSE START) CATALOG: AREA LUMINAIRE, 400W MH, HIGH PERFORMANCE SR2 REFLECTOR, FULL CUTOFF MEETS THE 'NIGHTTIME FRIENDLY' CRITERIA DESCRIPTION: SERIES: KAD LAMP CATALOG: MVR400HOR/ED28PA LAMP: ONE 400 WATT CLEAR ED28 PULSE START METAL HALIDE IN HORIZONTAL POSITION LAMP OUTPUT: 1 LAMP, RATED LUMENS/LAMP: 38000 INPUT WATTAGE: 456 LUMINOUS OPENING: RECTANGLE (L: 15", W: 15") TER VALUE: 57 (BF = 1) TER CATEGORY: AREA & SITE LIGHT - TYPE II MAX CD: 27,708.9 AT HORIZONTAL: 70°, VERTICAL: 65° CUTOFF CLASS: FULL CUTOFF ROADWAY CLASS: SHORT, TYPE II EFFICIENCY: 77.5%



Polar Candela Distribution



Isofootcandle Plot



Legend for graphs: Max Cd: 70° H, 0° H, 90° H. Distance in units of mount height (20ft).

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TO BE USED FOR LIGHTS 1, 2, & 3 AROUND THE COMPACTOR AND PARKING AREA.



FEATURES & SPECIFICATIONS

INTENDED USE - Square Straight Aluminum is a general purpose light pole for up to 35-foot mounting heights. This pole provides a lighter and naturally corrosion resistant option for mounting area light fixtures and floodlights.

CONSTRUCTION - Pole Shafts: The pole shaft is of uniform wall thickness and is made of extruded 6000 series aluminum alloy tubing that is heat treated to a T6 temper to provide maximum strength. The shaft is uniformly square in cross-section with flat sides, small corner radii and excellent torsional qualities. Available shaft weights are 4", 5", 6" and 6.75".

Pole Top: A top cap is provided for all poles that will receive drilling patterns for side-mount luminaire arm assemblies or when ordered with P1 option. The top cap resists intrusion of moisture or environmental contaminants.

Handhole: A handhole opening with a grinding provision is provided near the base. Standard positioning varies with shaft width as follows: 4" shaft, handhole at 12"; 5" shaft, handhole at 14"; 6" and 6.75" shaft, handhole at 18". Positioning the handhole lower than standard may not be possible and requires engineering review; consult Tech Support-Outdoor for further information. Every handhole includes a cover and cover attachment hardware. The handhole for a pole specified with a 4" or 5" shaft width has a nominal dimension of 2" x 4"; the handhole for a pole specified with a 6" or 6.75" shaft width has a nominal dimension of 2.63" x 5".

Anchor Base Cover/Bolts: Anchor base is cast from 356 alloy aluminum and supplied with 4 nut cover disks. A full 2 piece cast aluminum anchor base cover is available as an option. Anchor bolts are manufactured to ASTM F1554 Standards Grade 55, (SSRS) minimum yield strength and tensile strength of 75-95 KSI. Upper portion of anchor bolt is galvanized per ASTM A-153; bolts have an "L" bend on bottom end and are galvanized a minimum of 12" on the threaded end.

FINISH - Painted finish is coated with TQC (Highly Durable) Polyester powder that meets S1, S4 and S8 classifications of ASTM D1359. Standard powder-coat finishes include Dark Bronze, White, Black, Medium Bronze and Natural Aluminum colors. Classic finishes include Sandstone, Charcoal Gray, Tennis Green, Bright Red and Steel Blue colors. Other finishes include Brushed Aluminum, and Anodized Dark Bronze, Anodized Natural Aluminum and Anodized Black. Architectural colors and special finishes are available by quote and include, but are not limited to:RAL Colors, Custom Colors and Extended Warranty Finishes. Factory-applied primer paint finish is available for customer field-paint applications.

WARRANTY - 1 year limited warranty. Complete warranty terms located at: www.acuitybrands.com/CustomerResources/terms_and_conditions.aspx

NOTE: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: SSA 20 4C DM19 BA

Table with columns: SSA, Series, Nominal fixture mounting height, Nominal shaft base size/wall thickness, Mounting, Options, Finish. Includes options for tenon mounting, drilling, and finishes.

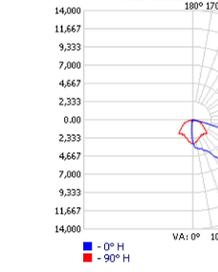
OUTDOOR PILE-SSA

OUTDOOR PHOTOMETRIC REPORT

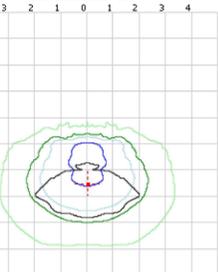
CATALOG: KAD 400M SR4SC (PULSE START) TEST #: LTL9477P SCALED PHOTOMETRY TEST LAB: 5/11/2009 TEST DATE: KAD 400M SR4SC (PULSE START) CATALOG: AREA LUMINAIRE, 400W MH, HIGH PERFORMANCE SR4SC SHARP CUTOFF, REFLECTOR, FULL CUTOFF MEETS THE 'NIGHTTIME FRIENDLY' CRITERIA DESCRIPTION: SERIES: KAD LAMP CATALOG: MVR400HOR/ED28PA LAMP: ONE 400 WATT CLEAR ED28 PULSE START METAL HALIDE IN HORIZONTAL POSITION LAMP OUTPUT: 1 LAMP, RATED LUMENS/LAMP: 38000 INPUT WATTAGE: 456 LUMINOUS OPENING: RECTANGLE (L: 15", W: 15") TER VALUE: 30 (BF = 1) TER CATEGORY: AREA & SITE LIGHT - TYPE IV MAX CD: 13,419.7 AT HORIZONTAL: 0°, VERTICAL: 57.5° CUTOFF CLASS: FULL CUTOFF ROADWAY CLASS: VERY SHORT, TYPE IV EFFICIENCY: 35.9%



Polar Candela Distribution



Isofootcandle Plot



Legend for graphs: Max Cd: 70° H, 0° H, 90° H. Distance in units of mount height (20ft).

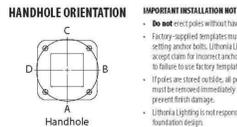
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TO BE USED FOR LIGHTS 4 & 5 ALONG ENTRANCE ROAD.



SSA Square Straight Aluminum Poles

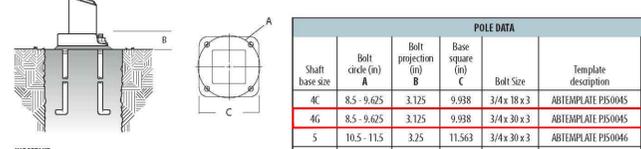
- 1. Wall thickness will be denoted by the letter "C," "C2" or "C3." Represents a 0.125" thickness, "C2" represents a 0.188" thickness and "C3" represents a 0.250" thickness.
2. When ordering tenon mounting and drill mounting, refer to the Handhole Orientation diagram on this page.
3. 3-1/2" and 4" O.D. tenons available for 4" and 5" shafts only.
4. The drilling template pattern can be used for a particular lot (batch) depending on the handhole that is used. Refer to the Anchor Bolt Matrix with Generic Template Link at the bottom of this page.
5. 1/2" and 3/4" couplings are available.
6. Specify location and orientation when ordering options. For "C," specify the height in feet above base of pole. Example: 30' - 3 Bolt 200, 30' - 2 Bolt 200. For "P1" specify orientation and drill mounting. Refer to the Handhole Orientation diagram on this page. Example: 12" coupling and 1/2" couplings.
7. Horizontal arm is 10" x 3/8" O.D. tenon standard, with radius curve providing 12" rise and 2.00" O.D.
8. Combination of tenon top and drill mounting is not recommended.
9. Must add original order number.
10. See when the specifications are required.
11. When the specifications are required, see www.lithonia.com/technical or Architectural Colors brochure (Form No. 794.5).



TECHNICAL INFORMATION - EPA (ft2) WITH 3-SECOND GUST PER AASHTO 2013

Table with columns: Series, Mounting Height (ft), Shaft Size, 90 MPH, 100 MPH, 110 MPH, 120 MPH, 130 MPH, 140 MPH, 150 MPH, Max. weight (lbs).

AASHTO 2013 values for the most conservative existing EPA calculation. For pole not showing EPA values under AASHTO 2013, EPA values in red under commercial columns. Consult Outdoor Tech support to obtain these values.



POLE DATA table with columns: Shaft base size, Bolt circle (in) A, Bolt projection (in) B, Base square (in) C, Bolt Size, Template description, Anchor bolt description.

IMPORTANT: These specifications are intended for general purposes only. Lithonia reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.

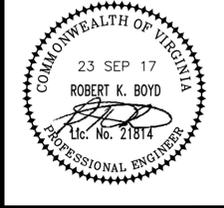


OUTDOOR: One Lithonia Way, Conroy, GA 30112 Phone: 770-922-9000 www.lithonia.com ©1994-2016 Acuity Brands Lighting, Inc. All rights reserved. Rev. 12/27/16

HURT & PROFFITT logo and address: 1880 PRAIRIE DRIVE, BLACKSBURG, VA 24060, 800.763.5596 TOLL FREE, 540.552.5592 MAIN

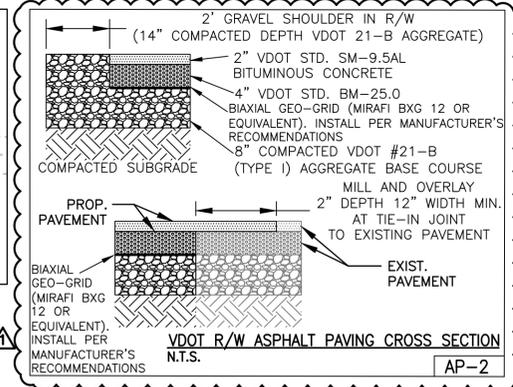
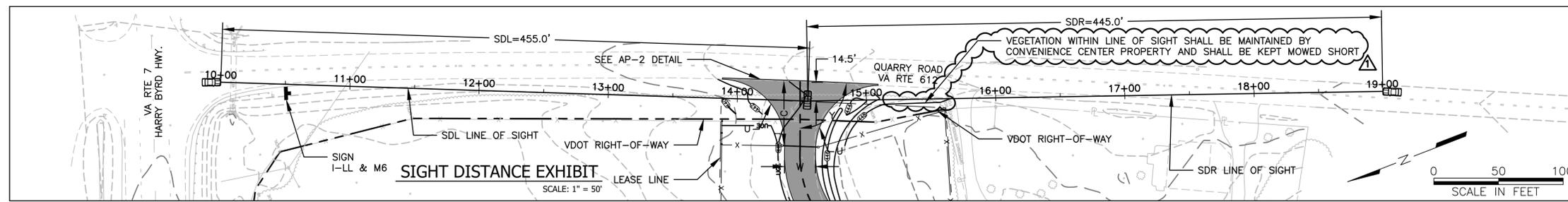
LIGHTING SPECIFICATIONS FOR CITIZEN CONVENIENCE CENTER CLARKE COUNTY, VIRGINIA

PROJECT NO. 03188400 LAT. 39°7'44"N LONG. 77°54'41"W DATE: 05/31/2017 DRAWN BY: NCP CHECKED BY: MTC



REV. 2 23 SEP 17

SHEET NO. C503



ENTRANCE DESIGN DATA

RTE 612, SOUTH OF RTE 7 IS A SECONDARY 2 LANE ROAD
 POSTED SPEED LIMIT = 40 MPH
 VDOT AADT = 680
 HEIGHT OF EYE = 3.5', HEIGHT OF OBJECT = 3.5'
 SDR: 445' REQUIRED, 445' PROVIDED (89' IS OBTAINABLE HOWEVER LINE OF SIGHT IS INCHES ABOVE GRADE WHICH DOES NOT ACCOUNT FOR VEGETATION HEIGHT)
 SDL: 445' REQUIRED, 455' PROVIDED
 DISTANCE TO RTE 7 = 480'

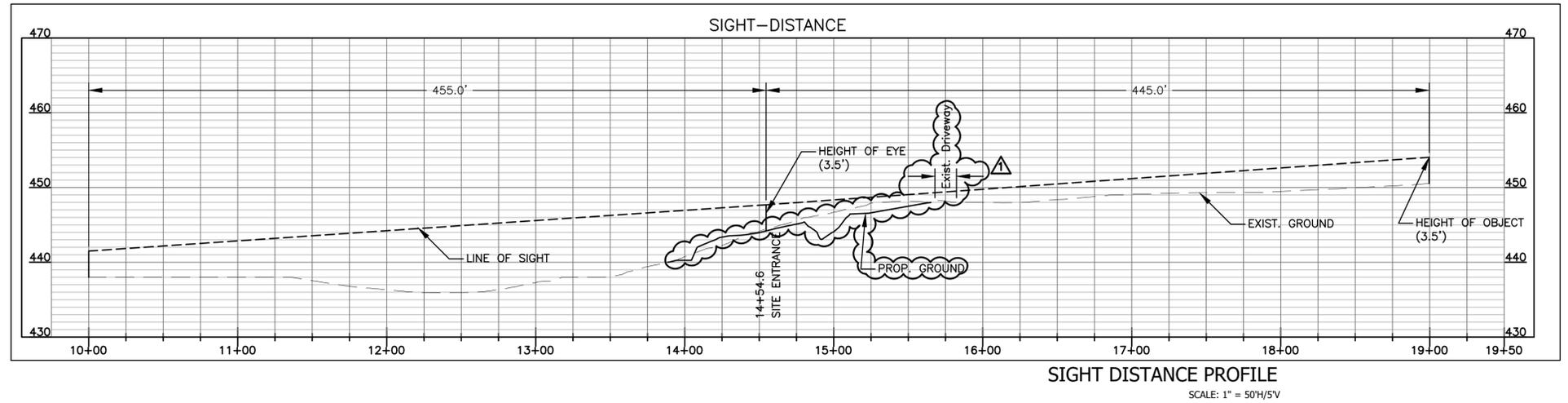
ENTRANCE GEOMETRY

	REQUIRED* (MINIMUM)	PROVIDED
C	25' MIN	50'
U	25' MIN C&G CURBING NOT REQUIRED	50'
W	18' MIN, 30' MAX	24'-0"
Y	90° PREF, 60° MIN	87°

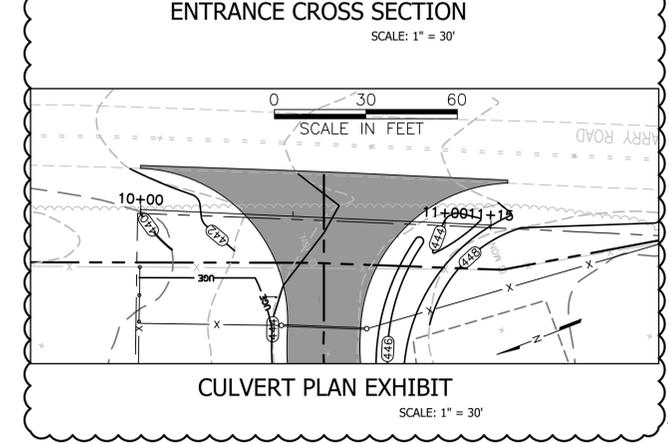
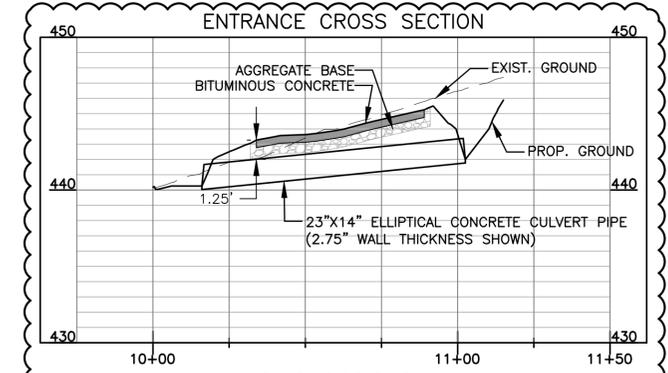
* FROM FIG 4-15 MODERATE VOLUME COMMERCIAL ENTRANCE DESIGNS ALONG HIGHWAYS WITH SHOULDER, VDOT ROAD DESIGN MANUAL APPENDIX F

ENTRANCE MEETS THE FOLLOWING REQUIREMENTS:

MAX. HIGHWAY VPD: 5000
 MAX. ENTRANCE VPD: 200
 MAX. ENTRANCE VPD TRUCK TRIPS: 10%
 EXPECTED ENTRANCE VPD: 300 TO 400



- V1. ALL WORK ON THIS PROJECT SHALL CONFORM TO THE CURRENT EDITIONS OF AND LATEST REVISIONS TO THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS AND STANDARDS. IN CASE OF A DISCREPANCY OR CONFLICT BETWEEN THE STANDARDS OR SPECIFICATIONS AND REGULATIONS, THE MOST STRINGENT SHALL GOVERN.
- V2. ALL CONSTRUCTION SHALL COMPLY WITH THE LATEST U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AND VIRGINIA OCCUPATIONAL SAFETY & HEALTH (VOSH) RULES AND REGULATIONS.
- V3. WHEN WORKING WITHIN VDOT RIGHT-OF-WAY, ALL TRAFFIC CONTROL, WHETHER PERMANENT OR TEMPORARY, SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF VDOT'S WORK AREA PROTECTION MANUAL FURTHERMORE, ALL TRAFFIC CONTROL FLAGGERS MUST BE CERTIFIED ACCORDANCE WITH SECTION 104.04 OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS.
- V4. THE DEVELOPER SHALL BE RESPONSIBLE FOR RELOCATING, AT HIS EXPENSE, ANY AND ALL UTILITIES, INCLUDING TRAFFIC SIGNAL POLES, JUNCTION BOXES, CONTROLLERS, ETC., OWNED BY VDOT OR PRIVATE/PUBLIC UTILITY COMPANIES. IT IS THE SOLE RESPONSIBILITY OF THE DEVELOPER TO LOCATE AND IDENTIFY UTILITY FACILITIES OR ITEMS THAT MAY BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION ACTIVITY. VDOT APPROVAL OF THESE PLANS DOES NOT INDEMNIFY THE DEVELOPER FROM THIS RESPONSIBILITY.
- V5. DESIGN FEATURES RELATING TO FIELD CONSTRUCTION, REGULATIONS, AND CONTROL OR SAFETY OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY VDOT. ANY ADDITIONAL EXPENSE INCURRED AS A RESULT OF ANY FIELD REVISION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER.
- V6. PRIOR TO INITIATION OF WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY VDOT LAND USE PERMITS FOR ANY WORK WITHIN VDOT RIGHT-OF-WAY.
- V7. IF REQUIRED BY THE LOCAL VDOT RESIDENCY OFFICE, A PRE-CONSTRUCTION CONFERENCE SHALL BE ARRANGED AND HELD BY THE ENGINEER AND/OR DEVELOPER WITH THE ATTENDANCE OF THE CONTRACTOR, VARIOUS COUNTY AGENCIES, UTILITY COMPANIES, AND VDOT PRIOR TO INITIATION TO WORK.
- V8. THE CONTRACTOR SHALL NOTIFY THE LOCAL VDOT RESIDENCY OFFICE WHEN WORK IS TO BEGIN OR CEASE FOR ANY UNDETERMINED LENGTH OF TIME. VDOT REQUIRES AND SHALL RECEIVE 48 HOURS ADVANCE NOTICE PRIOR TO ANY REQUIRED OR REQUESTED INSPECTION.
- V9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE ACCESS TO THE PROJECT FROM THE ADJACENT PUBLIC ROADWAY VIA A CONSTRUCTION ENTRANCE THAT IS CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH SECTION 3.03 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. FURTHERMORE, ACCESS TO OTHER PROPERTIES AFFECTED BY THIS PROJECT, AN EMPLOYEE CERTIFIED BY THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (VDCR) IN EROSION AND SEDIMENT CONTROL WHO SHALL INSPECT EROSION AND SILTATION CONTROL DEVICES AND MEASURES ON A CONTINUOUS BASIS FOR PROPER INSTALLATION AND OPERATION. DEFICIENCIES SHALL BE PROMPTLY RECTIFIED.
- V10. CONTRACTOR SHALL ENSURE ADEQUATE DRAINAGE IS ACHIEVED AND MAINTAINED ON THE SITE DURING AND AT THE END OF CONSTRUCTION.
- V11. ALL WATER AND SEWER LINES WITHIN EXISTING OR PROPOSED VDOT RIGHT-OF-WAY SHALL HAVE A MINIMUM THIRTY-SIX (36) INCHES COVER AND WHEN POSSIBLE SHALL BE INSTALLED UNDER ROADWAY DRAINAGE FACILITIES AT CONFLICT POINTS.
- V12. ANY UNUSUAL SUBSURFACE CONDITIONS (E.G., UNSUITABLE SOILS, SPRINGS, SINKHOLES, VOIDS, CAVES, ETC.) ENCOUNTERED DURING THE COURSE OF CONSTRUCTION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER AND VDOT. WORK SHALL CEASE IN THAT VICINITY UNTIL AN ADEQUATE DESIGN CAN BE DETERMINED BY THE ENGINEER AND APPROVED BY VDOT.
- V13. ALL FILL AREAS, BORROW MATERIAL AND UNDERCUT AREAS SHALL BE INSPECTED AND APPROVED BY A VDOT REPRESENTATIVE PRIOR TO PLACEMENT AND FILL WHERE CBR TESTING IS REQUIRED, A VDOT REPRESENTATIVE SHALL BE PRESENT TO INSURE THE SAMPLE OBTAINED IS REPRESENTATIVE OF THE LOCATION. WHEN SOIL SAMPLES ARE SUBMITTED TO PRIVATE LABORATORIES FOR TESTING, THE SAMPLES SHALL BE CLEARLY IDENTIFIED AND LABELED AS BELONGING TO A PROJECT TO BE ACCEPTED BY VDOT AND THAT TESTING SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE VDOT STANDARDS AND PROCEDURES.
- V14. ALL ROADWAY FILL, BASE, SUBGRADE MATERIAL, AND BACKFILL IN UTILITY/STORM SEWER TRENCHES SHALL BE COMPACTED IN SIX (6) INCH LIFTS TO 95% OF THEORETICAL MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99 METHOD A, WITHIN PLUS OR MINUS 2% OF OPTIMUM MOISTURE FOR THE FULL WIDTH OF ANY DEDICATED STREET RIGHT-OF-WAY. AT THE DIRECTION OF VDOT, DENSITY TESTS SHALL BE PERFORMED BY A QUALIFIED INDEPENDENT AGENCY IN ACCORDANCE WITH VDOT ROAD AND BRIDGE SPECIFICATIONS. CERTIFIED COPIES OF TEST REPORTS SHALL BE SUBMITTED TO VDOT DAILY, UNLESS SPECIFIED OTHERWISE.
- V15. VDOT STANDARD CD AND UD UNDERDRAINS SHALL BE INSTALLED WHERE INDICATED ON THESE PLANS AND/OR AS SPECIFIED BY VDOT.
- V16. THE INSTALLATION OF ANY ENTRANCES AND MAILBOXES WITHIN ANY DEDICATED STREET RIGHT-OF-WAY SHALL MEET VDOT MINIMUM DESIGN STANDARDS AND IS THE RESPONSIBILITY OF THE DEVELOPER.
- V17. PRIOR TO VDOT ACCEPTANCE OF ANY STREETS, ALL REQUIRED STREET SIGNAGE AND/OR PAVEMENT MARKINGS SHALL BE INSTALLED BY THE DEVELOPER OR, AT VDOT'S DISCRETION, BY VDOT ON AN ACCOUNT RECEIVABLE BASIS FOLLOWING THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- V18. THE DEVELOPER SHALL PROVIDE THE VDOT RESIDENCY OFFICE WITH A LIST OF ALL MATERIAL SOURCES PRIOR TO THE START OF CONSTRUCTION. COPIES OF ALL INVOICES FOR MATERIALS UTILIZED WITHIN ANY DEDICATED STREET RIGHT-OF-WAY MUST BE PROVIDED TO THE LOCAL VDOT RESIDENCY OFFICE PRIOR TO ACCEPTANCE OF THE WORK. UNIT AND TOTAL PRICES MAY BE OBTAINED.
- V19. AGGREGATE BASE AND SUBBASE MATERIALS SHALL BE PLACED ON SUBGRADE BY MEANS OF A MECHANICAL SPREADER DENSITY WILL BE DETERMINED USING THE DENSITY CONTROL STRIP IN ACCORDANCE WITH SECTION 304 OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS AND VTM-10. A CERTIFIED COMPACTION TECHNICIAN SHALL PERFORM THESE TESTS. CERTIFIED COPIES OF TEST REPORTS SHALL BE SUBMITTED TO VDOT DAILY, UNLESS SPECIFIED OTHERWISE. IN ADDITION TO CHECKING THE STONE DEPTHS, A VDOT REPRESENTATIVE SHALL BE NOTIFIED AND GIVEN THE OPPORTUNITY TO BE PRESENT DURING THE CONSTRUCTION AND TESTING OF THE DENSITY CONTROL STRIP.
- V20. ASPHALT CONCRETE PAVEMENTS SHALL BE PLACED IN ACCORDANCE WITH SECTION 315 OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS. DENSITY SHALL BE DETERMINED USING THE DENSITY CONTROL STRIP AS SPECIFIED IN SECTION 315 AND VTM-76. A CERTIFIED COMPACTION TECHNICIAN SHALL PERFORM THESE TESTS. CERTIFIED COPIES OF TESTS REPORTS SHALL BE SUBMITTED TO VDOT DAILY, UNLESS SPECIFIED OTHERWISE. A VDOT REPRESENTATIVE SHALL BE NOTIFIED AND GIVEN THE OPPORTUNITY TO BE PRESENT DURING THE CONSTRUCTION AND TESTING OF THE CONTROL STRIP.
- V21. IN ACCORDANCE WITH SECTION 302.03, THE FOUNDATIONS FOR PIPE CULVERTS THIRTY-SIX (36) INCHES AND LARGER SHALL BE EXPLORED BELOW THE BOTTOM OF THE EXCAVATION TO DETERMINE THE TYPE AND CONDITION OF THE FOUNDATION. THE CONTRACTOR SHALL REPORT FINDINGS OF FOUNDATION EXPLORATION TO THE ENGINEER AND VDOT FOR APPROVAL PRIOR TO PLACING PIPE. FOUNDATION DESIGNS SHALL COMPLY WITH VDOT ROAD AND BRIDGE STANDARD PB-1. WHERE SOFT, YIELDING, OR OTHERWISE UNSUITABLE FOUNDATION IS ENCOUNTERED, THE FOUNDATION DESIGN AND/OR NEED FOR FOUNDATION STABILIZATION SHALL BE DETERMINED BY THE ENGINEER AND APPROVED BY VDOT.
- V22. APPROVAL OF THESE PLANS SHALL EXPIRE THREE (3) YEARS FROM THE DATE OF THE APPROVAL LETTER.
- V23. VDOT STANDARD CG-12 CURB RAMPS SHALL BE INSTALLED WHERE INDICATED ON THESE PLANS AND/OR AS SPECIFIED BY VDOT.
- V24. VDOT STANDARD GUARDRAIL SHALL BE INSTALLED WHERE WARRANTED AND/OR AS PROPOSED ON THESE PLANS IN ACCORDANCE WITH VDOT'S INSTALLATION CRITERIA. FINAL APPROVAL OF THE GUARDRAIL LAYOUT TO BE GIVEN BY VDOT AFTER GRADING IS MOSTLY COMPLETE.



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ENTRANCE & SIGHT DISTANCE PLAN

FOR
CITIZEN CONVENIENCE CENTER
 CLARKE COUNTY, VIRGINIA

PROJECT NO. 03188400
 LAT. 39°7'44"N
 LONG. 77°54'41"W
 DATE: 05/31/2017
 DRAWN BY: NCP
 CHECKED BY: MTC

COMMONWEALTH OF VIRGINIA
 23 SEP 17
 ROBERT K. BOYD
 Lic. No. 21814
 PROFESSIONAL ENGINEER

REV. 2 23 SEP 17
 REV. 1 16 AUG 17

SHEET NO.
C601

Sep 25, 2017 - 1:29pm \\APROJECTS\Projects\311884\311884_ENGINEERING\Design\Plan\031884_Sheet_Entrance_Plan.dwg

Typical Traffic Control Stationary Operation on a Shoulder (Figure TTC-4.1)

NOTES

Standard 1. For long-term stationary work (more than 3 days) on divided highways having a median wider than 8', sign assemblies on both sides of the roadway shall be required as shown (ROAD WORK AHEAD (W20-1), RIGHT SHOULDER CLOSED AHEAD (W21-5bR), RIGHT SHOULDER CLOSED (W21-5aR)), even though only one shoulder is being closed. For operations less than 3 days in duration, sign assemblies will only be required on the side where the shoulder is being closed and a RIGHT SHOULDER CLOSED (W21-5aR) sign shall be added to that side.

Guidance 2. Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.

Option: 3. The SHOULDER WORK (W21-5) sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.

4. For short duration operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity amber rotating, flashing, or oscillating lights is used.

Standard: 5. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or oscillating lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, or oscillating lights. 6. Taper length (L) and channelizing device spacing shall be at the following:

Table with 3 columns: Speed Limit (mph), Lane Width (Feet), and Taper Length (L). Rows include speed limits from 25 to 70 mph and lane widths from 9 to 12 feet.

Table with 3 columns: Location, Speed Limit (mph), and Channelizing Device Spacing. Rows include Transition Spacing, Travelway Spacing, and Construction Access*.

On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.

- 7. The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for the posted speed limit. 8. A truck-mounted attenuator (TMA) shall be used on the shadow vehicle on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45 mph for operations with a duration greater than 60 minutes. 9. When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.

1: Revision 1 - 4/1/2015

Typical Traffic Control Lane Closure on a Two-Lane Roadway Using Flaggers (Figure TTC-23.1)

NOTES

Guidance: 1. Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, and 500'-800' where the posted speed limit is greater than 45 mph. 2. Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the flagger station and transition, based on the posted speed limit and at least equal to or greater than the values in Table 6H-3. Generally speaking, motorists should have a clear line of sight from the graphic flagger symbol sign to the flagger.

Option: 3. Where Right-of-Way or geometric conditions prevent the use of 48" x 48" signs, 36" x 36" signs may be used.

Standard: 4. Flagger stations shall be located far enough in advance of the work space to permit approaching traffic to reduce speed and/or stop before passing the work space and allow sufficient distance for departing traffic in the left lane to return to the right lane before reaching opposing traffic (see Table 6H-3 on Page 6H-5).

5. All flaggers shall be state certified and have their certification card in their possession when performing flagging duties (see Section 6E.01, Qualifications for Flaggers).

6. Cone spacing shall be based on the posted speed and the values in Table 6H-4 on Page 6H-6.

7. A shadow vehicle with at least one high intensity amber rotating, flashing, or oscillating light shall be parked 80'-120' in advance of the first work crew.

Option: 8. A supplemental flagger may be required in this area to give advance warning of the operation ahead by slowing approaching traffic prior to reaching the flagger station or queued traffic.

Guidance: 9. If the queue of traffic reaches the BE PREPARED TO STOP (W3-4) sign then the signs, and if used the portable temporary rumble strips (PTRS), should be readjusted at greater distances.

10. When a highway-rail crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the highway-rail grade crossing, the temporary traffic control zone should be extended so that the transition area precedes the highway-rail crossing (see Figure TTC-56 for additional information on highway-rail crossings).

Standard: 11. At night, flagger stations shall be illuminated, except in emergencies (see Section 6E.08).

Option: 12. Cones may be eliminated when using a pilot vehicle operation or when the total roadway width is 20 feet or less.

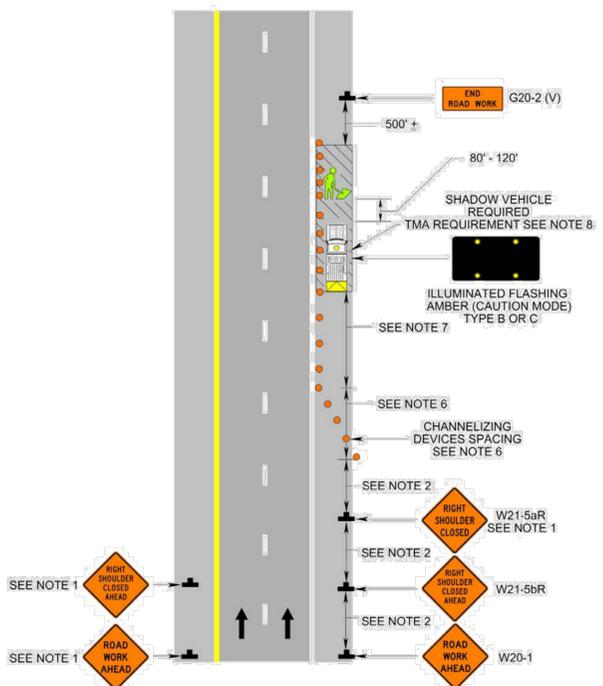
13. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6E).

Standard: 14. When approved for use, three portable temporary rumble (PTRS) strips shall be installed across the entire travel lane adjacent to the BE PREPARED TO STOP (W3-4) sign. The portable temporary rumble strips shall be monitored and adjusted as necessary during the work shift to ensure proper placement on the roadway. When the PTRS are installed, the RUMBLE STRIPS AHEAD (W20-V26) sign shall also be utilized.

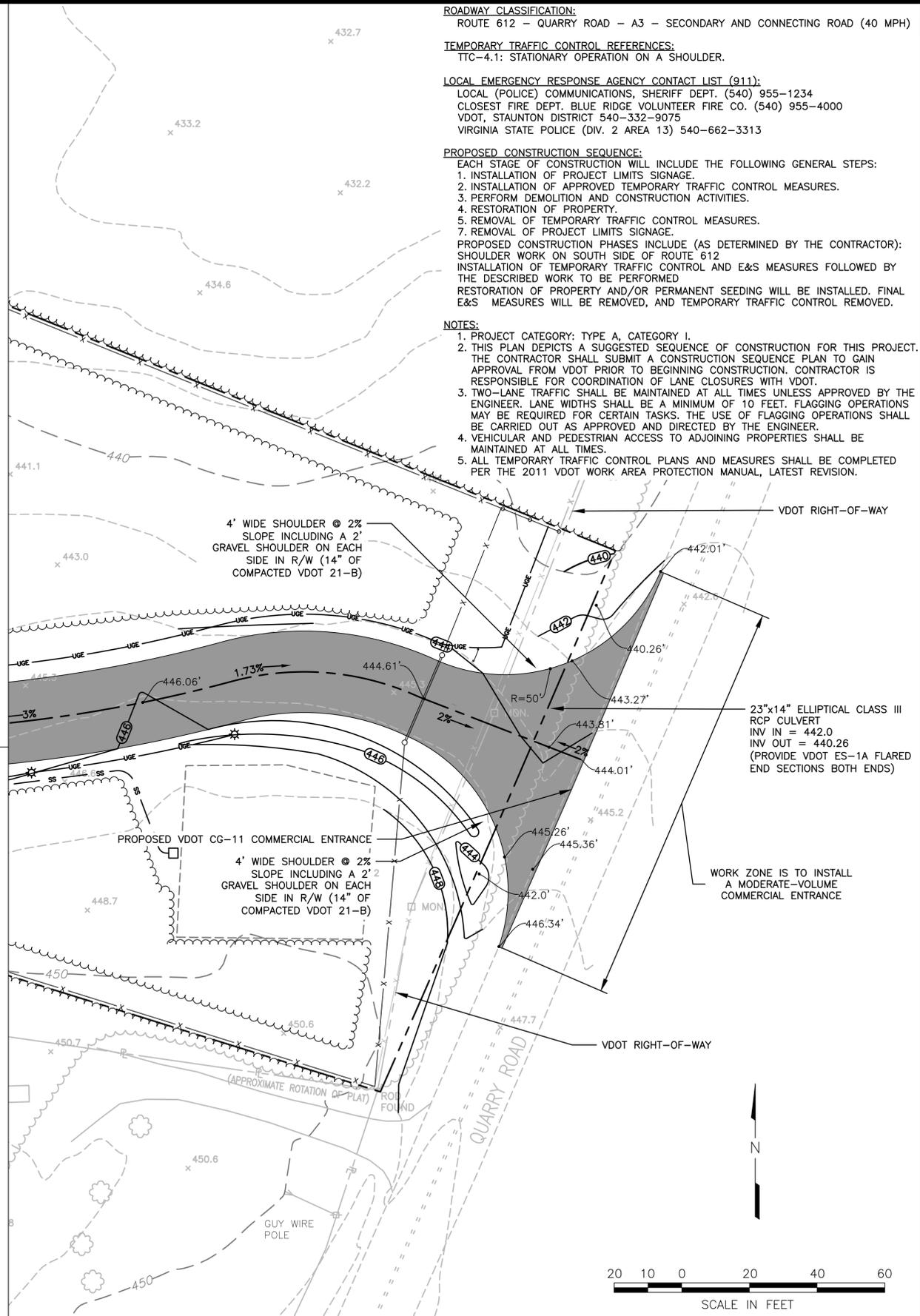
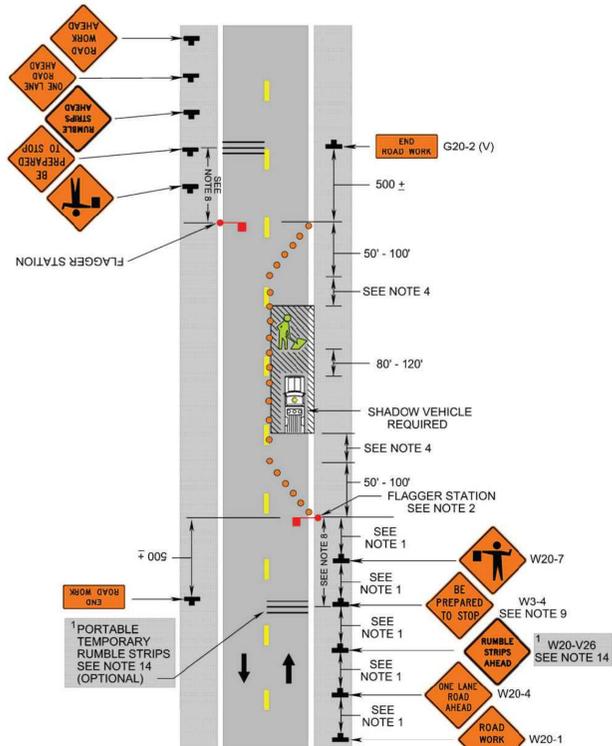
Table with 3 columns: Posted Speed, 0-35 mph, 36-55 mph, and PTRS Spacing (Center to Center), 5 Feet, 8 Feet.

1: Revision 1 - 4/1/2015

Stationary Operation on a Shoulder (Figure TTC-4.1)



Lane Closure on a Two-Lane Roadway Using Flaggers (Figure TTC-23.1)



TEMPORARY TRAFFIC CONTROL SIGNAGE NOTES:

- 1. SIGNAGE FROM TTC 4.1 WOULD INCLUDE (W20-1, W21-5BR, W21-5AR, AND G20-2(V)) ON SOUTHBOUND SIDE OF ROUTE 612, QUARRY ROAD. SIGNAGE ON NORTHBOUND SIDE OF QUARRY ROAD WILL ONLY BE REQUIRED IF WORK TAKES 4 DAYS OR MORE, THIS WOULD INCLUDE (W20-1 AND G21-5BR). CHANNELIZING DEVICES SHALL BE GROUP 2 WITH A 4:1 WEDGE. 2. TTC 23.1 SIGNAGE AND FLAGGING SHALL BE USED WHEN SHOULDER WORK IS AT EDGE OF EXISTING PAVEMENT REQUIRING THE REMOVAL OF THE CHANNELIZING DEVICES INSTALLED AS PART OF TTC 4.1 (DURING TIE-IN TO EXISTING ASPHALT ON RT 612).

HURT & PROFFITT logo and title: TEMPORARY TRAFFIC CONTROL PLAN FOR CITIZEN CONVENIENCE CENTER CLARKE COUNTY, VIRGINIA

Table with project details: PROJECT NO. 03188400, LAT. 39°7'44"N, LONG. 77°54'41"W, DATE: 05/31/2017, DRAWN BY: NCP, CHECKED BY: MTC.

Professional Engineer seal for Robert K. Boyd, License No. 21814, dated 23 SEP 17.

Table with revision history: REV. 2 23 SEP 17, REV. 1 16 AUG 17.

SHEET NO. C602

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Sewage Disposal System Construction Specifications

General Information	
New <input checked="" type="checkbox"/> Replacement <input type="checkbox"/> Expanded <input type="checkbox"/>	
Owner: Hurt & Proffitt c/o Billy Cooper Address: 100 Ardmore Street Blacksburg, VA. 24060 Telephone: (540) 552-5592	
For a Type I Sewage disposal system which is to be constructed on/at Quarry Road - Citizens Convenience Center	
Actual or estimated water use: 80 Gallons per day-4 employees	
DESIGN	
Water supply, existing (describe) Private To be installed: class IIB cased; 50' minimum gouted; 50' minimum	
Building sewer: 4" I.D. PVC 40, or equivalent. Slope 1.25" per 10' (minimum) Cleanout at foundation and every 50' to septic tank	See Schematic Drawing on Page 5 of 7 for building sewer, Septic tank, force main, distribution box, header lines, and absorption trenches - See Engineered Plans on Pages 6 of 7 and 7 of 7 for Pump Calculations by Painter-Lewis, PLC.
Septic tank: Capacity 750 gallons (minimum) Other - must meet standards of sewage handling and disposal regs (2014) 12 vac 5-610-817	
Inlet-outlet structure: PVC 40, 4" tees or equivalent. The inlet structure shall be 1-2" higher than the outlet structure and shall extend 6-8" below and 8-10" above the normal liquid level. The outlet structure shall extend 35-40% below the normal liquid level and 8-10" above the normal liquid level. Outlet must be equipped with a Zabel A600 Effluent Filter or equivalent with manhole	
Pump and pump station: No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 750 Gallon Pump Tank - See Sheets 6 thru 7 for pump design	
Gravily mains: 3" or larger I.D., minimum 6" fall per 100', 1500lb. Crush strength or equivalent. Other: 1 1/2" Force Main SCH 40 PVC	
Distribution box: Precast concrete with 6 ports and set on concrete pad Purge around pipes - Purge unused knockouts	
Header lines: Material: 4" I.D. 1500 lb. Crush strength plastic or equivalent from distribution box to 2' into absorption trench. Slope 2" minimum per 100'. Other:	
Percolation lines: Gravity 4" plastic 1000 lb. Per foot bearing load or equivalent, slope 2", 4" (min. max.) per 100" Other:	
Absorption trenches: Square ft. required 420; depth from ground surface to bottom of trench 20-21"; trench width 3' Depth of aggregate 13"; Trench length 50'; Number of trenches 3; Center to center 9'	

Construction Drawings

Citizens Convenience Center

See Schematic Drawing on Page 5 of 7 for building sewer, Septic tank, force main, distribution box, header lines, and absorption trenches - See Engineered Plans on Pages 6 of 7 and 7 of 7 for Pump Calculations by Painter-Lewis, PLC.

This sewage disposal construction permit is null and void if (a) conditions are changed from those shown on the application, (b) conditions are changed from those shown on the construction permit.
No part of any installation shall be covered or used until inspected, corrections made if necessary, and approved by Bruce Legge, AOSE, by the local Health Department, or unless expressly authorized by the local Health Department. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon direction of the Department.



General Sewage Disposal System Installation Requirements

- The sewage disposal construction permit is null and void if (a) conditions are changed from those shown on the application (b) conditions are changed from those shown on the construction permit.
- No part of any installation shall be covered or used until inspected, corrections made if necessary, and approved by Bruce Legge, AOSE, by the local Health Department, or unless expressly authorized by the local Health Department. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon direction from the Local Health Department.
- Drainfield trenches are to be installed on contour on original grade. The drainfield will be 3 trenches 50' in length with 9' centers. Trenches are to be 3' wide. The drainfield is to be at least 100' from all water supplies. The installation depth is to be 20-21".
- The septic tank, pump tank, distribution box, and distribution network are all to be a minimum of 10' from the Attendant Building. These shall conform to all State and Local design requirements.
- A pump is required (See sheets 6 thru 7).
- Do not install the drainfield during wet conditions.
- If wells, springs, pit privies, septic tanks, cesspools, drainfields, underground storage tanks, or other pollution sources or pertinent features are discovered within 200' of the proposed installation, but are not shown on the survey sketch, please contact the Health Department immediately. Do not proceed with construction until clearance is granted by the Health Department.
- Follow all requirements in the Local County Septic and Well Ordinances.
- Sewage disposal system installation and repair areas must not be physically altered (vehicular traffic, cutting, filling, compaction, etc.) prior to system installation. Protect drainfield from compaction - flag or rope off as required.
- All unused ports on concrete septic tanks and distribution boxes must be purged flush with original exterior surfaces.
- All roof drainage or road drainage must be diverted away from the drainfield.
- Make sure all Local County setbacks are met for wells, septic tanks, pump tanks, distribution boxes, and drainfields.
- Make sure that utility lines, driveways, etc. are not trenched through the drainfield.



NO HEAVY MACHINERY ALLOWED ON THE DISPERSAL AREA. NO VEHICLE TRAFFIC, OR STOCKPILING OF BUILDING MATERIALS OR SOIL, IS ALLOWED ON THE DISPERSAL AREA. THE DISPERSAL SITE MUST NOT BE CLEARED WHEN THE SOIL IS WET, AND/OR SMEARING OF THE DISPERSAL AREA SOILS IS UNACCEPTABLE, AND MAY CAUSE FOR THE VOIDANCE OF THIS DISPERSAL SITE.

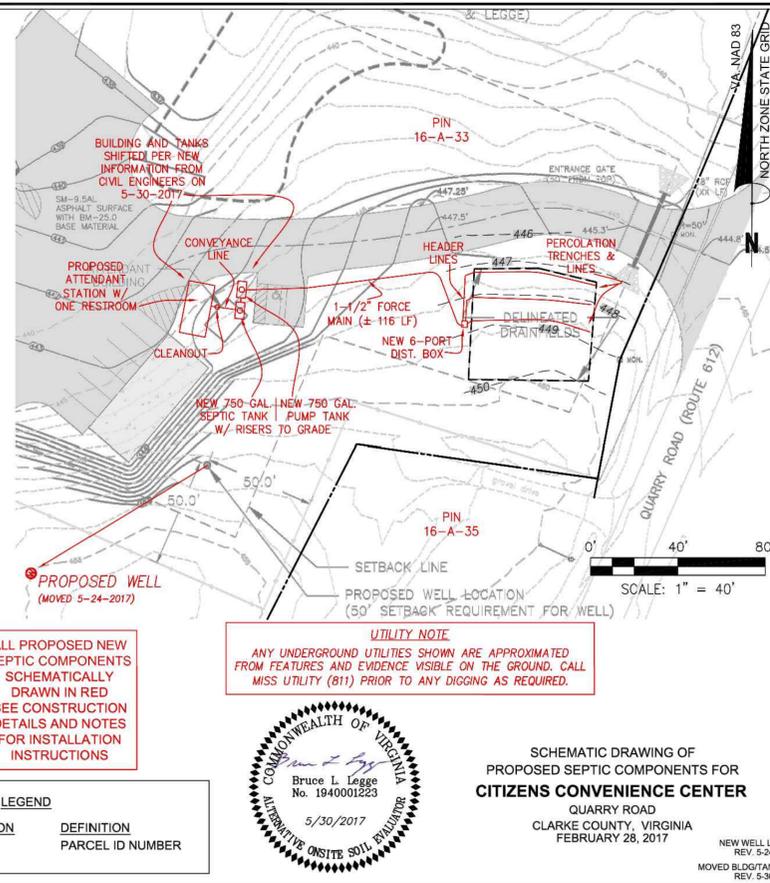
CONSTRUCTION DETAILS:

- INSTALL NEW 750 GALLON SEPTIC TANK AND 750 GALLON PUMP TANK WITH RISERS TO GRADE.
- INLET/OUTLET STRUCTURE - PVC 40, 4" TEES OR EQUIVALENT. THE INLET STRUCTURE SHALL BE 1-2" HIGHER THAN THE OUTLET STRUCTURE AND SHALL EXTEND 6-8" BELOW AND 8-10" ABOVE THE NORMAL LIQUID LEVEL. THE OUTLET STRUCTURE SHALL EXTEND 35-40% BELOW THE NORMAL LIQUID LEVEL AND 8-10" ABOVE THE NORMAL LIQUID LEVEL. OUTLET MUST BE EQUIPPED WITH A ZABEL A600 EFFLUENT FILTER OR EQUIVALENT.
- 1-1/2" SCH 40 PVC FORCE MAIN (±85 LF) FROM PUMP TANK TO DIST. BOX. CONVEYANCE LINE (GRAVITY MAIN FROM RESTROOM TO SEPTIC TANK) - 3" OR LARGER I.D., MINIMUM OF 6" FALL PER 100' (0.50%), 1500 LB CRUSH STRENGTH OR EQUIVALENT.
- DISTRIBUTION BOX - PRECAST CONCRETE WITH 6 PORTS AND SET ON CONCRETE PAD. PURGE AROUND PIPES - PURGE UNUSED KNOCKOUTS.
- HEADER LINES - MATERIAL 4" I.D. 1500 LB CRUSH STRENGTH PLASTIC OR EQUIVALENT FROM DISTRIBUTION BOX TO 2' INTO ABSORPTION TRENCH. MINIMUM SLOPE 2" FALL PER 100' (0.17%).
- PERCOLATION LINES - GRAVITY 4" PLASTIC 1000 LB PER FOOT BEARING LOAD OR EQUIVALENT. SLOPE 2" (MIN) OR 4" (MAX) PER 100'.
- ABSORPTION TRENCHES
 - SQUARE FEET REQUIRED: 420 (450 PROVIDED)
 - DEPTH FROM GROUND SURFACE TO BOTTOM OF TRENCH: 20-21"
 - TRENCH WIDTH: 3'
 - DEPTH OF AGGREGATE: 13"
 - TRENCH LENGTH: 50'
 - NUMBER OF TRENCHES: 3
 - CENTER TO CENTER: 9'
- A PUMP IS REQUIRED (TO BE ENGINEERED BY OTHERS).

NOTES:

- DRAINFIELD TRENCHES ARE TO BE INSTALLED ON CONTOUR. THE SYSTEM AS SHOWN CAN BE CONSTRUCTED WITH 3 TRENCHES 50' IN LENGTH. TRENCHES ARE TO BE 3' IN WIDTH ON 9' CENTERS. THE DRAINFIELD IS TO BE 100' FROM ALL WATER SUPPLIES. THE TRENCH DEPTH SHALL BE 20' TO 21". THE SEPTIC TANK, PUMP TANK, DISTRIBUTION BOX AND DISTRIBUTION NETWORK (ALL TO BE A MINIMUM OF 10' FROM THE BUILDING) ARE SHOWN SCHEMATICALLY AND SHALL CONFORM TO STATE AND LOCAL DESIGN REQUIREMENTS.
- THERE ARE NO WATER SUPPLY SPRINGS KNOWN WITHIN 200' OR WELLS WITHIN 100' OF PROPOSED DRAINFIELD. DO NOT INSTALL THE DRAINFIELD DURING WET CONDITIONS.
- THIS SEWAGE DISPOSAL CONSTRUCTION PERMIT IS NULL AND VOID IF (a) CONDITIONS ARE CHANGED FROM THOSE SHOWN ON THE APPLICATION. (b) CONDITIONS ARE CHANGED FROM THOSE SHOWN ON THE CONSTRUCTION PERMIT.
- NO PART OF ANY INSTALLATION SHALL BE COVERED OR USED UNTIL INSPECTED, CORRECTIONS MADE IF NECESSARY, AND APPROVED BY BRUCE LEGGE, AOSE, BY THE LOCAL (WESTMORELAND COUNTY) HEALTH DEPARTMENT, OR UNLESS EXPRESSLY AUTHORIZED BY THE LOCAL HEALTH DEPARTMENT. ANY PART OF ANY INSTALLATION WHICH HAS BEEN COVERED PRIOR TO APPROVAL SHALL BE UNCOVERED, IF NECESSARY, UPON DIRECTION FROM THE LOCAL HEALTH DEPARTMENT.
- SCHEMATIC OVERLAIN ON CITIZENS CONVENIENCE CENTER - SITE PLANS - CLARKE COUNTY, VA DATED 3-7-2017 BY HURT & PROFFITT

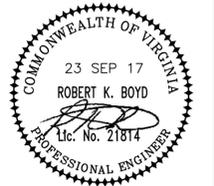
LEGEND	
ABBREVIATION	DEFINITION
PIN	PARCEL ID NUMBER



SCHEMATIC DRAWING OF PROPOSED SEPTIC COMPONENTS FOR CITIZENS CONVENIENCE CENTER
QUARRY ROAD
CLARKE COUNTY, VIRGINIA
FEBRUARY 28, 2017

NEW WELL LOC. REV. 5-24-17
MOVED BLDG/TANKS REV. 5-30-17

PROJECT NO.	03188400
LAT.	39°7'44"N
LONG.	77°54'41"W
DATE:	05/31/2017
DRAWN BY:	NCP
CHECKED BY:	MTG



SEPTIC PUMP SYSTEM

APPLICANT:
HURT & PROFFITT
 100 ARDMORE STREET
 BLACKSBURG, VA 24060
 TM #14-A-33
 CLARKE COUNTY, VA
 SYSTEM DESIGN LOAD: 80 GPD

LIST OF DRAWINGS
 COVER PAGE
 PUMP SYSTEM

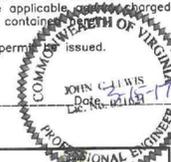
1/2
 2/2

CERTIFICATION STATEMENT:
 I hereby certify that these plans are being submitted under the provisions of the Sewage Disposal and Handling Regulation (12 VAC5-610), the Private Well Regulations (12 VAC5-630) and all other applicable laws, regulations and policies implemented by the Virginia Department of Health. I further certify that I currently possess any professional license required by the laws and regulations for the Commonwealth that have been duly issued by the applicable authority charged with licensure to perform the work contained herein.

I recommend that a construction permit be issued.

OSE/PE
 Signature

[Signature]



GENERAL NOTES:

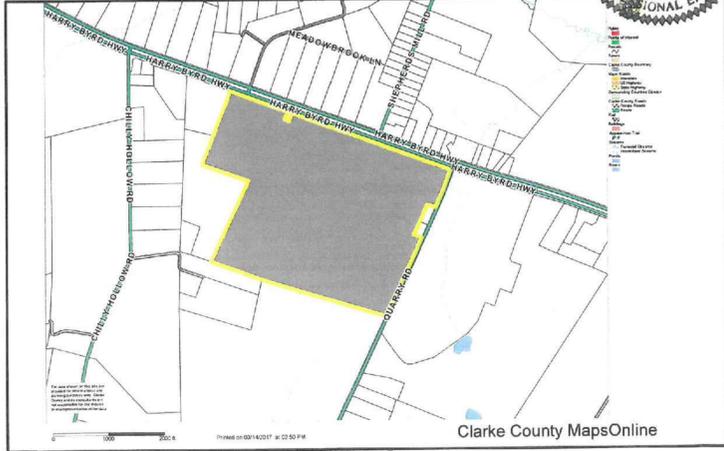
- The property delineated on this plan is located on the west side of Quarry Road in Clarke County, Virginia. The operator of this property proposes to construct a septic dosing pump to trench disposal system to serve the Clarke County Citizen Convenience Center employees only.
- Property Owner: Contact: Billy Cooper, Hurt & Proffitt
 Stuart M. Perry
 117 Limestone Lane
 Winchester, VA 22602
 Telephone: (540) 552-5592
- Engineer: Contact: John Lewis
 PAINTER-LEWIS, P.L.C.
 817 Cedar Creek Grade, Suite 120
 Winchester, Virginia 22601
 Telephone: (540) 662-5792

CONSTRUCTION NOTES:

- The CONTRACTOR is to furnish and install a complete sewage pump system to work with the proposed treatment and disposal system designed by others.
- The CONTRACTOR shall be responsible for determining the exact location of all utilities before commencing work and for any damages which occur by the failure to locate and preserve these utilities. If the CONTRACTOR should encounter utilities other than those shown on these plans, the CONTRACTOR shall immediately notify the engineer and take the necessary and proper steps to protect the facility and assure the continuance of service. Call "MISS UTILITY" @ 811 two days prior to any excavation.
- The CONTRACTOR shall have approved construction drawings prior to the start of construction. At least one copy of approved plans and revisions shall be kept on-site at all times and available for inspections as needed.
- Blasting is not permitted.
- The CONTRACTOR shall obtain permission from adjoining property owners prior to conducting any off site construction activities.
- All property corner markers disturbed or otherwise obscured by construction are to be replaced and verified by a certified land surveyor at the CONTRACTOR'S expense.
- Erosion and sediment control practices shall conform to the requirements of the Virginia Erosion and Sediment Control handbook.
- All sanitary sewer and water supply construction shall conform to the current standards of the Virginia Department of Health and Clarke County. The CONTRACTOR shall be responsible for obtaining all necessary permits for the installation of sewerage facilities.
- Obtain a valid permit from the Health Department prior to construction of the system.

DESIGN CRITERIA FOR PUMP SYSTEM

Demand: 4 x 20 gpd = 80 gpd
 daily dose: 80 gpd



VICINITY MAP

PAGE 6 OF 7

PROJECT:
CLARKE COUNTY CITIZEN CONVENIENCE CENTER PROPERTY CLARKE COUNTY, VA. COVER PAGE

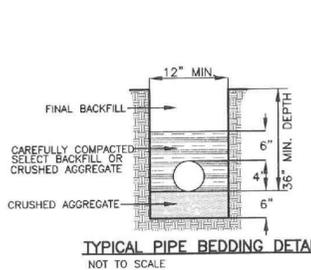
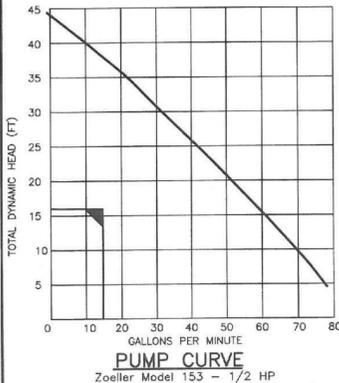
PAINTER-LEWIS, P.L.C.
 817 Cedar Creek Grade, Suite 120
 Winchester, Virginia 22601
 Telephone (540)662-5792
 Facsimile (540)662-5793
 Email: office@painterlewis.com



SURVEY: C.I.:
 NA N/A
 DRAWN BY: JOB NO.:
 P-L 1703002
 SCALE: DATE:
 N/A 03/14/17
 SHEET:
 1/2

SYSTEM COMPONENT DESCRIPTION

- A. Pressure Pipes**
 Pressure pipe and fittings called for on the plans shall be SCH 40 PVC1120 ASTM D 1785 with solvent cement joints.
 The pipe trench bottom should be constructed to provide a firm, stable and uniform support for the full length of the pipe. Any part of the trench bottom excavated below embedment grade should be backfilled and compacted. Concrete thrust blocking should be provided at each change of direction of the force main. All pipe shall be installed with proper bedding providing uniform longitudinal support under the pipe.
 Provide a minimum depth of bury of 36 inches. Install the pipe by placing the initial backfill material to a minimum depth of six inches over the top of the pipe and compacted. All pipe embedment material should be selected and placed carefully, avoiding stones over 1-1/2 inches in size, frozen lumps and debris. Sharp stones should be excluded from the embedment material.
- B. Pump Chamber**
 The pump chamber should be a 750 gallon precast unit from Winchester Building Supply or equivalent. This tank volume is approximately 15 gallons per vertical inch. The tank should be water tight. All pipes entering or leaving the tank should be sealed by gROUT or rubber boot. The pump chamber will house a Zoeller effluent pipe system. Coordinate with tank manufacturer to ensure fit.
- C. Pump Data**
 Furnish and install a complete pumping system with a ZOELLER CO. Effluent Series Model 153, 1/2 HP, Septic Tank Effluent Pump (or equal). Provide controls to provide pump deactivate switch, pump activate switch, and high water alarm. Place the alarm and pump on separate circuits.
- PUMP TANK**
 drawdown per pump cycle: 5.3"
 pump head: 16.6 ft +/-
 delivery rate: 15 gpm
 pump spec.: ZOELLER CO. Model 153, 1/2 HP Centrifugal Pump
- Item Distance From Top of Pump Tank
 pump on switch: 37.7"
 pump off switch: 43"
 high water alarm: 28"
 reserve volume(above alarm): 24.4" = 360 gallons
- D. Control Panel**
 Install control panel. The control panel needs to be able to accommodate a 120V pump, proposed float system, and alarm. Use a CSI Fusion Control Panel or equal. Set the timer control to initiate one pump cycle every 24 hours at 12PM. The high water alarm does not initiate a pump cycle.
- E. Subsurface Disposal Piping**
 The pump will deliver approximately 80 gallons at 15.0 gpm of treated septic tank effluent to the subsurface absorption field for final disposal from the pump tank. The effluent will be pumped through a 1 1/2" diameter pipe to a distribution/surge box then to the final distribution box as proposed by others and approved by the Health Department. Adjust the ball valve to allow approximately 15 gpm to be dosed to the field.



PROJECT: Clarke County Citizens Convenience Center
 SEPTIC PUMP TO TRENCHES

A	B	C	D	E	F	G	H	I	J	K	L	M
PUMP	PUMP DISCHARGE ELEV	ELEV	LINE DIA. (in)	LINE HEAD (ft)	LINE VEL (GPM)	LINE LENGTH (ft)	LINE LOSS (ft)	FRICT. LOSS (ft)	MINOR LOSSES (ft)	SYSTEM HEAD (ft)	PUMP HEAD (ft)	PUMP HEAD (ft)
1	440.0	450.0	10	1.61	15.00	237	110	1.60	5.00	0.00	16.60	7.20

REMARKS
 A pump ID
 B pump invert elevation
 C elevation at trap
 D C-B
 E discharge line diameter
 F delivery pipe flow
 G $H = F \times 0.002283 / (D^{2.63}) \times (E24)^{2.63}$
 H delivery pipe length
 I $H = (F/10.281 \times 150 \times E^{2.63})^{1.88}$
 J estimate
 K operating head of C psi
 L $H = D + I + K + J$
 M pump head in psi

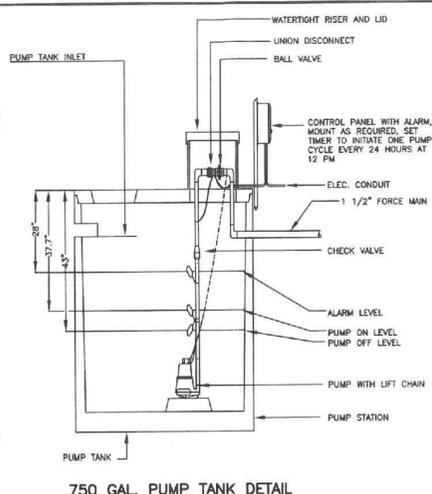
PAGE 7 OF 7

PROJECT:
CLARKE COUNTY CITIZEN CONVENIENCE CENTER PROPERTY CLARKE COUNTY, VA. PUMP SYSTEM

PAINTER-LEWIS, P.L.C.
 817 Cedar Creek Grade, Suite 120
 Winchester, Virginia 22601
 Telephone (540)662-5792
 Facsimile (540)662-5793
 Email: office@painterlewis.com



SURVEY: C.I.:
 N/A N/A
 DRAWN BY: JOB NO.:
 P-L 1703002
 SCALE: DATE:
 N/A 03/14/17
 SHEET:
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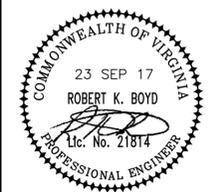
750 GAL. PUMP TANK DETAIL
 NOT TO SCALE

HURT & PROFFITT
 1880 PRATT DRIVE
 BLACKSBURG, VA 24060
 800.763.5596 TOLL FREE
 540.552.5692 MAIN

ENGINEERING • SURVEYING • LAND DEVELOPMENT • ENVIRONMENTAL
 GEOTECHNICAL • CONSTRUCTION TESTING & INSPECTION • CULTURAL RESOURCES

SEPTIC PERMIT - 2
 FOR
CITIZEN CONVENIENCE CENTER
 CLARKE COUNTY, VIRGINIA

PROJECT NO.	03188400
LAT.	39°7'44"N
LONG.	77°54'41"W
DATE:	05/31/2017
DRAWN BY:	NCP
CHECKED BY:	MTC



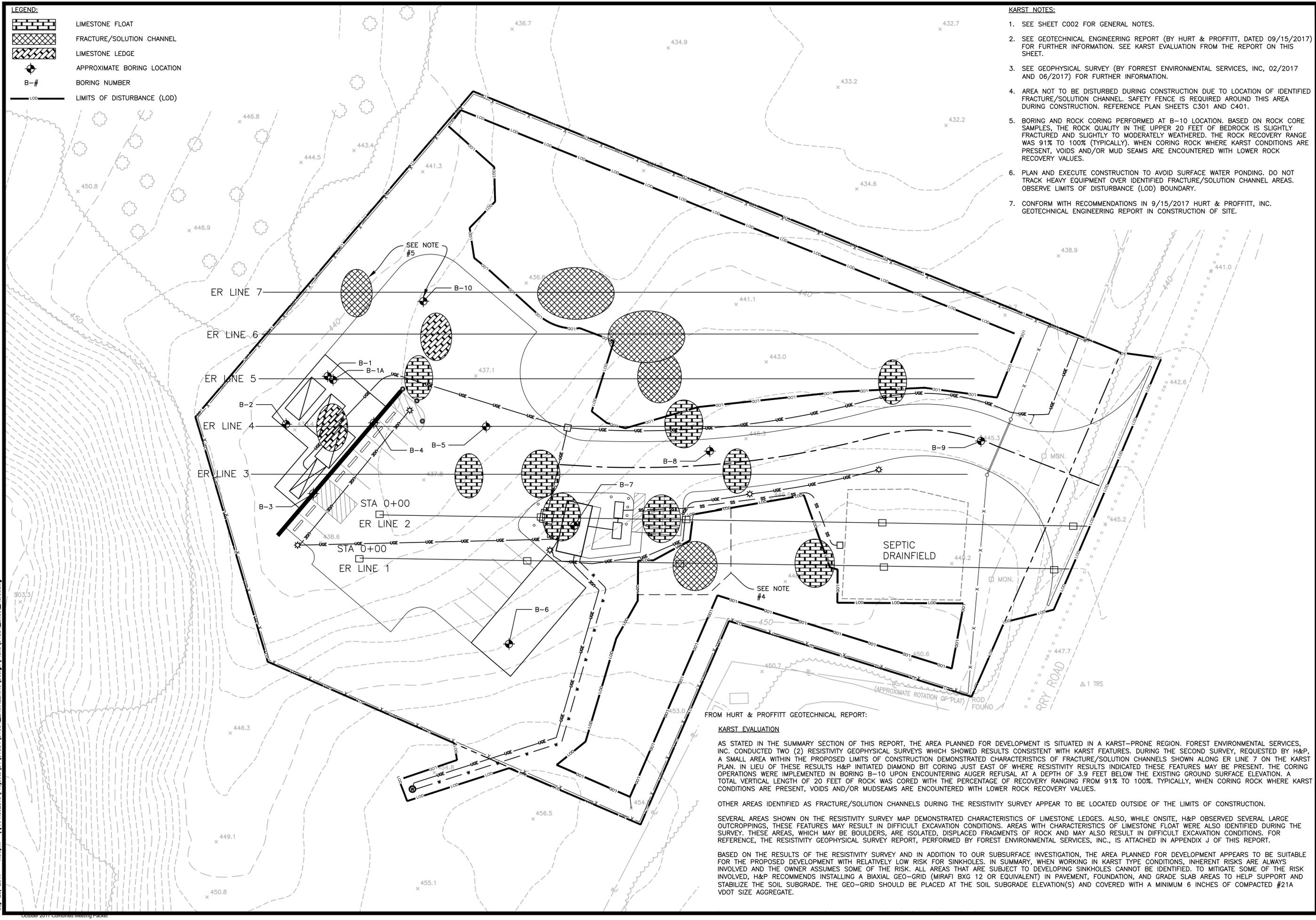
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SHEET NO.
SEPTIC-2

Sep 25, 2017 - 1:25pm \\APROJECTS\Projects\31\1884\31884_ENGINEERING\Design\Plans\31884_Sheet_Septic_Permit1.dwg

- LEGEND:**
-  LIMESTONE FLOAT
 -  FRACTURE/SOLUTION CHANNEL
 -  LIMESTONE LEDGE
 -  APPROXIMATE BORING LOCATION
 -  BORING NUMBER
 -  LIMITS OF DISTURBANCE (LOD)

- KARST NOTES:**
1. SEE SHEET C002 FOR GENERAL NOTES.
 2. SEE GEOTECHNICAL ENGINEERING REPORT (BY HURT & PROFFITT, DATED 09/15/2017) FOR FURTHER INFORMATION. SEE KARST EVALUATION FROM THE REPORT ON THIS SHEET.
 3. SEE GEOPHYSICAL SURVEY (BY FORREST ENVIRONMENTAL SERVICES, INC, 02/2017 AND 06/2017) FOR FURTHER INFORMATION.
 4. AREA NOT TO BE DISTURBED DURING CONSTRUCTION DUE TO LOCATION OF IDENTIFIED FRACTURE/SOLUTION CHANNEL. SAFETY FENCE IS REQUIRED AROUND THIS AREA DURING CONSTRUCTION. REFERENCE PLAN SHEETS C301 AND C401.
 5. BORING AND ROCK CORING PERFORMED AT B-10 LOCATION. BASED ON ROCK CORE SAMPLES, THE ROCK QUALITY IN THE UPPER 20 FEET OF BEDROCK IS SLIGHTLY FRACTURED AND SLIGHTLY TO MODERATELY WEATHERED. THE ROCK RECOVERY RANGE WAS 91% TO 100% (TYPICALLY). WHEN CORING ROCK WHERE KARST CONDITIONS ARE PRESENT, VOIDS AND/OR MUD SEAMS ARE ENCOUNTERED WITH LOWER ROCK RECOVERY VALUES.
 6. PLAN AND EXECUTE CONSTRUCTION TO AVOID SURFACE WATER PONDING. DO NOT TRACK HEAVY EQUIPMENT OVER IDENTIFIED FRACTURE/SOLUTION CHANNEL AREAS. OBSERVE LIMITS OF DISTURBANCE (LOD) BOUNDARY.
 7. CONFORM WITH RECOMMENDATIONS IN 9/15/2017 HURT & PROFFITT, INC. GEOTECHNICAL ENGINEERING REPORT IN CONSTRUCTION OF SITE.



FROM HURT & PROFFITT GEOTECHNICAL REPORT:

KARST EVALUATION

AS STATED IN THE SUMMARY SECTION OF THIS REPORT, THE AREA PLANNED FOR DEVELOPMENT IS SITUATED IN A KARST-PRONE REGION. FOREST ENVIRONMENTAL SERVICES, INC. CONDUCTED TWO (2) RESISTIVITY GEOPHYSICAL SURVEYS WHICH SHOWED RESULTS CONSISTENT WITH KARST FEATURES. DURING THE SECOND SURVEY, REQUESTED BY H&P, A SMALL AREA WITHIN THE PROPOSED LIMITS OF CONSTRUCTION DEMONSTRATED CHARACTERISTICS OF FRACTURE/SOLUTION CHANNELS SHOWN ALONG ER LINE 7 ON THE KARST PLAN. IN LIEU OF THESE RESULTS H&P INITIATED DIAMOND BIT CORING JUST EAST OF WHERE RESISTIVITY RESULTS INDICATED THESE FEATURES MAY BE PRESENT. THE CORING OPERATIONS WERE IMPLEMENTED IN BORING B-10 UPON ENCOUNTERING AUGER REFUSAL AT A DEPTH OF 3.9 FEET BELOW THE EXISTING GROUND SURFACE ELEVATION. A TOTAL VERTICAL LENGTH OF 20 FEET OF ROCK WAS CORED WITH THE PERCENTAGE OF RECOVERY RANGING FROM 91% TO 100%. TYPICALLY, WHEN CORING ROCK WHERE KARST CONDITIONS ARE PRESENT, VOIDS AND/OR MUDSEAMS ARE ENCOUNTERED WITH LOWER ROCK RECOVERY VALUES.

OTHER AREAS IDENTIFIED AS FRACTURE/SOLUTION CHANNELS DURING THE RESISTIVITY SURVEY APPEAR TO BE LOCATED OUTSIDE OF THE LIMITS OF CONSTRUCTION.

SEVERAL AREAS SHOWN ON THE RESISTIVITY SURVEY MAP DEMONSTRATED CHARACTERISTICS OF LIMESTONE LEDGES. ALSO, WHILE ONSITE, H&P OBSERVED SEVERAL LARGE OUTCROPPINGS, THESE FEATURES MAY RESULT IN DIFFICULT EXCAVATION CONDITIONS. AREAS WITH CHARACTERISTICS OF LIMESTONE FLOAT WERE ALSO IDENTIFIED DURING THE SURVEY. THESE AREAS, WHICH MAY BE BOULDERS, ARE ISOLATED, DISPLACED FRAGMENTS OF ROCK AND MAY ALSO RESULT IN DIFFICULT EXCAVATION CONDITIONS. FOR REFERENCE, THE RESISTIVITY GEOPHYSICAL SURVEY REPORT, PERFORMED BY FOREST ENVIRONMENTAL SERVICES, INC., IS ATTACHED IN APPENDIX J OF THIS REPORT.

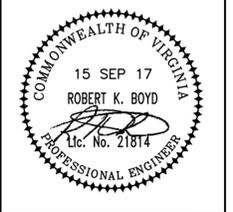
BASED ON THE RESULTS OF THE RESISTIVITY SURVEY AND IN ADDITION TO OUR SUBSURFACE INVESTIGATION, THE AREA PLANNED FOR DEVELOPMENT APPEARS TO BE SUITABLE FOR THE PROPOSED DEVELOPMENT WITH RELATIVELY LOW RISK FOR SINKHOLES. IN SUMMARY, WHEN WORKING IN KARST TYPE CONDITIONS, INHERENT RISKS ARE ALWAYS INVOLVED AND THE OWNER ASSUMES SOME OF THE RISK. ALL AREAS THAT ARE SUBJECT TO DEVELOPING SINKHOLES CANNOT BE IDENTIFIED. TO MITIGATE SOME OF THE RISK INVOLVED, H&P RECOMMENDS INSTALLING A BIAXIAL GEO-GRID (MIRAFI BxG 12 OR EQUIVALENT) IN PAVEMENT, FOUNDATION, AND GRADE SLAB AREAS TO HELP SUPPORT AND STABILIZE THE SOIL SUBGRADE. THE GEO-GRID SHOULD BE PLACED AT THE SOIL SUBGRADE ELEVATION(S) AND COVERED WITH A MINIMUM 6 INCHES OF COMPACTED #21A VDOT SIZE AGGREGATE.

HURT & PROFFITT
 1880 PRATT DRIVE
 BLACKSBURG, VA 24060
 800.763.5596 TOLL FREE
 540.552.5592 MAIN

ENGINEERING • SURVEYING • LAND DEVELOPMENT • ENVIRONMENTAL
 GEOTECHNICAL • CONSTRUCTION TESTING & INSPECTION • CULTURAL RESOURCES

KARST PLAN
 FOR
CITIZEN CONVENIENCE CENTER
 CLARKE COUNTY, VIRGINIA

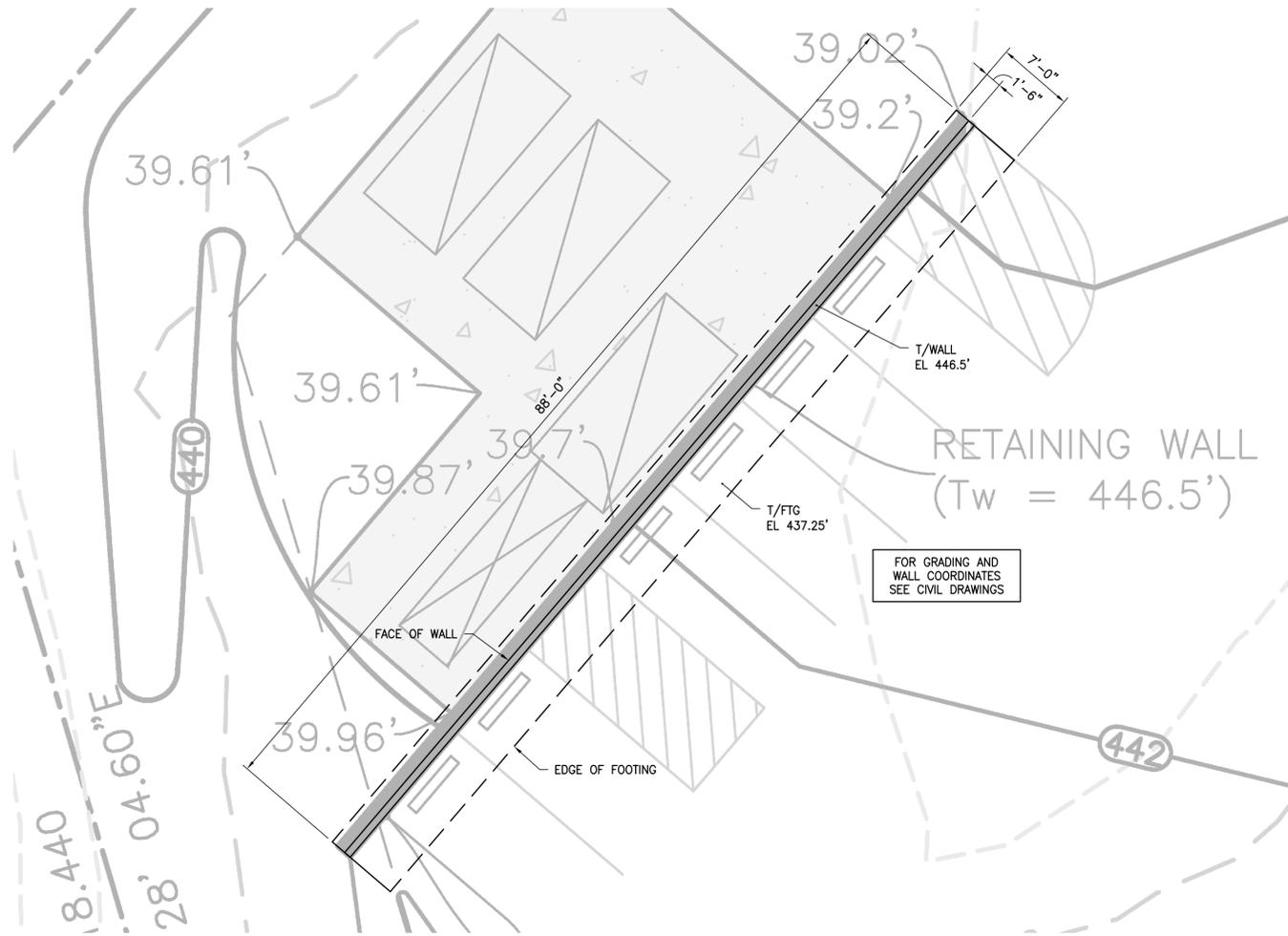
PROJECT NO.	03188400
LAT.	39°7'44"N
LONG.	77°54'41"W
DATE:	05/31/2017
DRAWN BY:	NCP
CHECKED BY:	MTC



REV 1 - 15 SEP 17
 GEOTECHNICAL INVESTIGATION
 REV. 2 23 SEP 17

SHEET NO.
KARST

Sep 25, 2017 - 1:30pm \\AMPROJECTS\Projects\31\1884\ENGINEERING\Design\Plans\31884_Sheet_Karst.dwg
 October 2017 Combined Meeting Packet



PLAN
SCALE: 1/8"=1'-0"



FOR GRADING AND WALL COORDINATES SEE CIVIL DRAWINGS

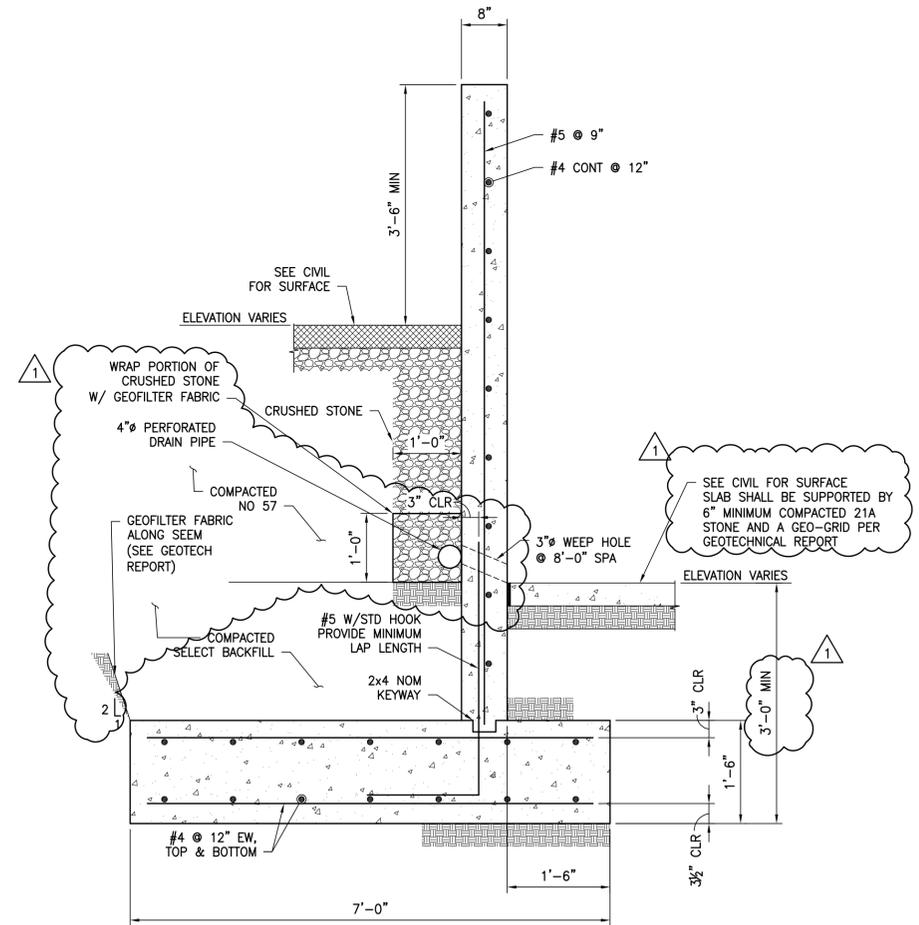
STRUCTURAL NOTES

1. GENERAL REQUIREMENTS
 - 1.1. THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. APPLICATION OF CONSTRUCTION LOADS TO THE PARTIALLY COMPLETED STRUCTURE SHALL BE CONSIDERED BY THE CONTRACTOR AND INCLUDED IN THE DESIGN OF SHORING, BRACING, FORMWORK, AND OTHER SUPPORTING ELEMENTS PROVIDED FOR CONSTRUCTION OF THE STRUCTURE.
2. APPLICABLE CODES AND STANDARDS
 - 2.1. VIRGINIA UNIFORM STATEWIDE BUILDING CODE" (IBC 2012).
 - 2.2. ACI 318, "BUILDING CODE" REQUIREMENTS FOR REINFORCED CONCRETE".
3. DESIGN LOADS

3.1. LIVE LOAD SURCHARGE	120 PSF
3.2. WIND LOAD	
ULTIMATE WIND SPEED	105 MPH
RISK CATEGORY	I
EXPOSURE CATEGORY	C
4. SOIL BEARING CAPACITY
 - 4.1. THE ALLOWABLE SOIL BEARING CAPACITY IS 1,600 PSF BASED ON THE GEOTECHNICAL REPORT BY HURT & PROFFITT DATED SEPTEMBER 15, 2017, PROJECT NUMBER 03188401. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION AND REQUIREMENTS FOR FILL AND STRENGTHENING OF SOILS.
 - 4.2. ENGINEERED FILL SHALL BE AN APPROVED MATERIAL PLACED IN HORIZONTAL LAYERS WITH A MAXIMUM LOOSE THICKNESS OF 8". EACH LAYER SHALL BE COMPACTED TO A DRY MINIMUM DRY DENSITY OF 98% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698 (STANDARD PROCTOR METHOD). FULL-TIME DENSITY TESTS SHALL BE PERFORMED TO VERIFY COMPACTION REQUIREMENTS ARE MET.
5. MATERIALS
 - 5.1. CONCRETE (COMPRESSIVE STRENGTH AT 28 DAYS)

FOOTING	3,000 PSI
WALL	4,000 PSI
 - 5.2. REINFORCING STEEL

REINFORCING BARS	ASTM A615, GRADE 60
------------------	---------------------



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

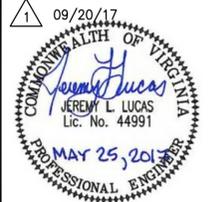


HURT & PROFFITT
100 ARDMORE STREET
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540.562.5692 MAIN

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RETAINING WALL PLAN
CITIZEN CONVENIENCE CENTER
CLARKE COUNTY, VIRGINIA

PROJECT NO.	03188400
LAT.	39°7'44"N
LONG.	77°54'41"W
DATE:	05/25/2017
DRAWN BY:	ATE
CHECKED BY:	JLL



MASTER
ENGINEERS & DESIGNERS
904 Lakeside Drive, Lynchburg, VA 24501
506-082 434-846-1350 Fax: 434-846-1351

Sep.20.2017 - 4:36pm P:\506 Anderson\082 - Clarke Co. Convenience Center Retaining Wall Drawings\Structural\SI.dwg

From: "Boyce, Arthur (VDOT)" <Bobby.Boyce@VDOT.Virginia.gov>
To: boyd@andassoc.com
Cc: rfincham@clarkecounty.gov, "Smith, Matthew, P.E. (VDOT)" <Matthew.Smith@vdot.virginia.gov>, "Funkhouser, Rhonda (VDOT)" <Rhonda.Funkhouser@VDOT.Virginia.gov>, "Cline, Mark <Cline@andassoc.com>" <Cline@andassoc.com>
Sent: Friday, September 15, 2017 11:51:39 AM
Subject: Clarke County - Route 612 - Citizen Convenience Center

DEPARTMENT OF TRANSPORTATION
Staunton/Edinburg Land Development
14031 Old Valley Pike
Edinburg, VA 22824

Dear Mr. Boyd :

This is to acknowledge receipt of your revised plans dated August 16, 2017 for the subject project. The plans appear satisfactory and are approved. Please advise the developer accordingly.

I offer the following comments:

- Our review and comments are general in nature. Should details be overlooked during plan review or conditions in the field exist such that additional measures are warranted, such measures shall be completed to the satisfaction of the Department.
- Materials used and methods of construction shall adhere to the current observed VDOT *Road and Bridge Specifications, Road and Bridge Standards, Manual on Uniform Traffic Control Devices*, and Land Use Permit Special Provisions.
- A preconstruction conference should be held by the engineer and/or developer with the attendance of the contractor, various County agencies, utility companies, and VDOT prior to initiation of work.
- All drainage is to be carried within the right-of-way in ditch lines or gutters along the street to a pipe or drainage easement.
- Any construction related changes to the approved plan must come through the design engineer to VDOT for approval. Please allow a minimum of 5 business days for VDOT review.
- If changes in safety, maintenance, or uses occur once the entrance is in operation. The owner will be required to address these issues at their expense. Including any taper or turn lanes that could be needed.
- A Land Use Permit shall be obtained before any work is performed on the State's right-of-way. The permit is issued by this office and will require application fees, the salary & expenses of a State assigned inspector, and surety bond coverage. Once satisfactory application has been made, a permit will normally take 20-30 days to process and issue.

If you have any questions or need further information, please do not hesitate to give me a call at (540) 984-5631.

Sincerely,

Bobby Boyce

Bobby Boyce
VODT Land Development Engineer
Clarke, Frederick, Shenandoah, & Warren Counties
14031 Old Valley Pike
Edinburg, VA 22824
(540)984-5631

RE: Clarke County revised plans

From : Staton, Dustin (DEQ) <Dustin.Staton@deq.virginia.gov> Mon, Sep 25, 2017 04:13 PM
Subject : RE: Clarke County revised plans
To : Cline, Mark <Cline@andassoc.com>
Ash, David <dash@clarkecounty.gov>, Stidham, Brandon (Clarke)
Cc : <bstidham@clarkecounty.gov>, Boyd, Keith
<boyd@andassoc.com>, rfincham@clarkecounty.gov

Mark,

After a brief review of the changes that were submitted it appears that the plan will not require any major additional changes, the planning commission can proceed with this document and should not anticipate any major changes. Please submit a paper copy when it is available.

From: Cline, Mark [mailto:Cline@andassoc.com]
Sent: Monday, September 25, 2017 1:52 PM
To: Staton, Dustin (DEQ)
Cc: Ash, David; Stidham, Brandon (Clarke); Boyd, Keith; Cline, Mark; rfincham@clarkecounty.gov
Subject: Clarke County revised plans

Dustin –

As I noted I would do in my email to you earlier today, I have attached the revised plan set. The previous revisions (flagged with a 1) and the current ones (flagged with a 2) are both included in this clouded set.

The specific changes resulting from the revised SWM calculations are located on Sheets C002 and C301. On C002, the notes regarding SWM have been modified with the current information, and on C301 the flow number to the level spreader has been updated based on the current calculations.

Other changes in the plan set include the addition of geogrid under the paving and concrete, minor changes to compaction requirements, and the addition of more drainage stone behind the site retaining wall. None of these modifications impact the site SWM calculations or plans.

Please do not hesitate to call or email with any questions / comments.

Mark Cline
Project Manager – Land Development

HURT & PROFFITT
CIVIL ENGINEERING & SURVEYING SINCE 1973
1861 Pratt Drive, Suite 1100

Blacksburg, Virginia 24060
Phone: 540-552-5592 - Fax: 540-552-5729 - Cell: 540-392-4800
Email: mcline@handp.com Web: www.handp.com

Piedmont Geotechnical, Inc.

286 High Rail Terrace, SE • Leesburg, Virginia 20175
540-882-9350 • PiedmontGeo@aol.com

September 21, 2017

Clarke County Planning Department
Attn: Mr. Ryan Fincham
101 Chalmers Court
Berryville, Virginia 22611

Re: Review of Karst Plan & Associated Documents
Proposed Citizen Convenience Center
Quarry Road
Berryville, Virginia
PGI No. 2129VA

Dear Mr. Fincham:

In accordance with your request, we reviewed the Karst Plan and associated documents for the proposed Citizen Convenience Center on Quarry Road. The reports were prepared by Hurt & Proffitt, Inc. (H&P). Our review included two electrical resistivity (ER) report documents prepared by Forrest Environmental Services, Inc. Our review did not include a site visit.

In our opinion, the extent of exploration, laboratory testing, and engineering input by H&P was adequate for the scope of the project. Sufficient soil borings and rock coring were performed to characterize the nature of the substrata. It is noted that the local soils are substantially Fat CLAY (CH). Such soils can present construction and long-term performance problems; however, Expansion Index Analysis of a single composite sample yielded results which indicate a low expansion potential. It is recommended that construction monitoring be vigilant to assure that soils used in the development process are similar to those tested such that long-term stability is assured.

H&P noted, on page 3 of the geotechnical report, that borings were backfilled using *cement grout* in the upper one-half to one-third of depth. Straight cement grout is subject to shrinkage and may not provide an adequate long-term seal and protection from infiltration. Generally, a cement-bentonite grout is used. It is recommended that H&P provide additional discussion. The Karst Plan also delineated a "Potential Karst Feature" area to remain undisturbed, and we concur with this determination.

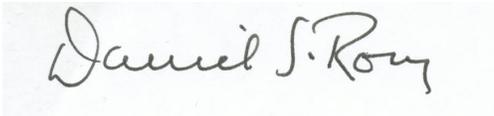
Geotechnical and Geo-Environmental Consulting

Virginia, Maryland, District of Columbia, West Virginia, New Jersey
North Carolina, Pennsylvania, Delaware, US Virgin Islands

In summary, the Karst Plan reported by H&P generally conforms to industry standards; however, additional comment regarding the adequacy of cement grout as a borehole filler should be provided. If you have any questions regarding the above, or if additional review is required, please call.

Sincerely,

Piedmont Geotechnical, Inc.

A handwritten signature in black ink that reads "Daniel S. Rom". The signature is written in a cursive style and is set against a light gray rectangular background.

Daniel S. Rom, P.E.
Vice President

DSR/jbp

