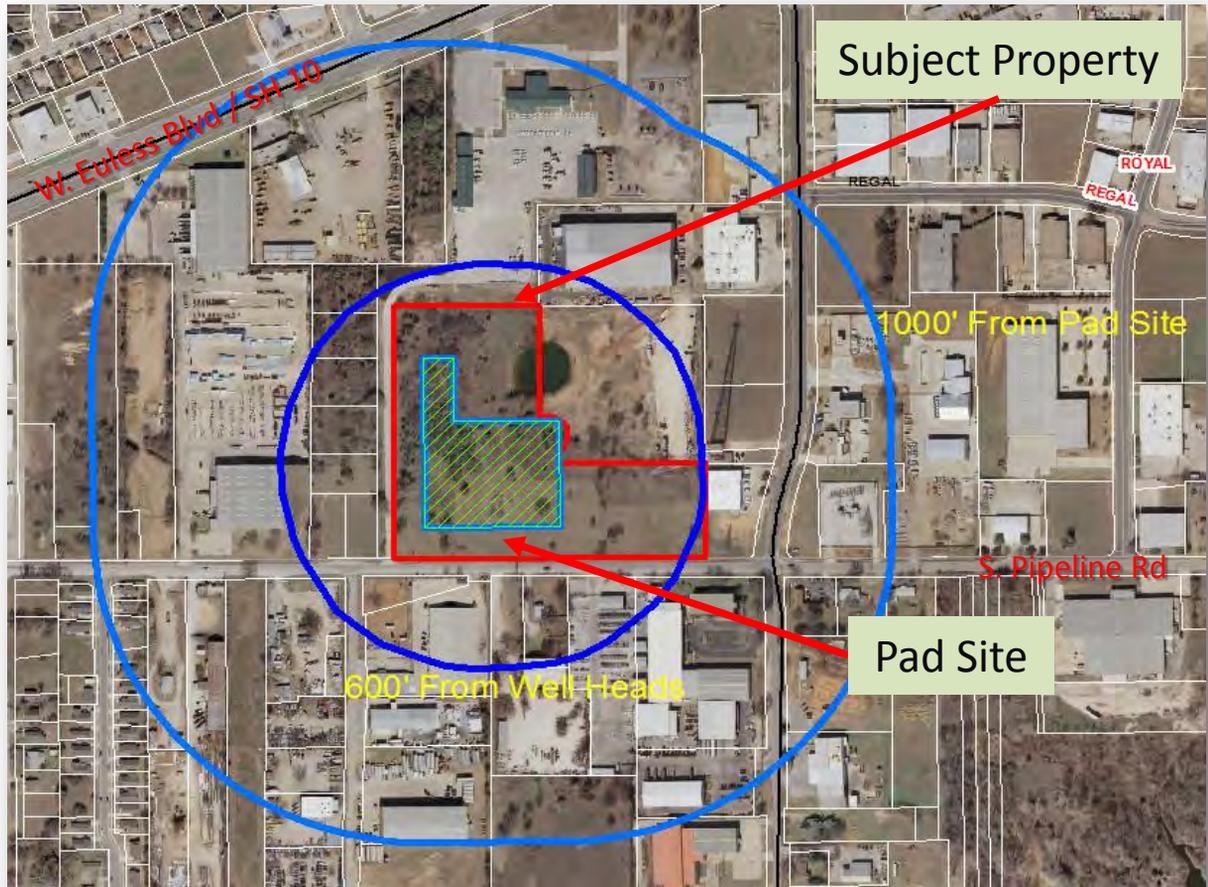


11-01-CC
Gas Well Pad Site Permit
Pad Site, Property, and Buffer Areas



SITE AND OPERATION INFORMATIONLease Name Mims PadStreet Address or Legal Description 11301 S Pipeline Road E; Abstract 599, Tracts 2C & 2C1 and Abstract 678, Tracts 2A1 & 2BCentral Abstract: 599 & 678 Survey Name John A Groves & Kitty House County TarrantNumber of Wells to be Permitted with this Application: n/a

Well Information:

Well name _____, Pad site _____ Well number _____

Well API: 42- _____ - _____, RRC permit number _____

Abstract _____, Survey _____ County _____

X-coordinate _____ Y-coordinate _____

Well name _____, Pad site _____ Well number _____

Well API: 42- _____ - _____, RRC permit number _____

Abstract _____, Survey _____ County _____

X-coordinate _____ Y-coordinate _____

Well name _____, Pad site _____ Well number _____

Well API: 42- _____ - _____, RRC permit number _____

Abstract _____, Survey _____ County _____

X-coordinate _____ Y-coordinate _____

Well name _____, Pad site _____ Well number _____

Well API: 42- _____ - _____, RRC permit number _____

Abstract _____, Survey _____ County _____

X-coordinate _____ Y-coordinate _____

Wellhead(s) located within 600 feet of a Residential Structure,
Commercial Structure, Public Building, or Public Park, or Golf Course? Yes NoPad Site located in 100-year flood plain? Yes NoWill pipelines be installed on, across or under public property or right-of-way? Yes No

City Staff to Fill in Case and Fees:

COE Case Number _____ - _____ - CC

Fee Paid \$ _____

Receipt No. _____

Check No. _____

Staff Initials _____

CHECKLISTS

INSTRUCTIONS: The City of Euless reviews each application partially based on the items on the following checklists. Each application must be accompanied by a gas well pad site plan or gas operations permit exhibit and supporting documents. The property owner/operator/applicant is encouraged to meet with a member of the City of Euless Staff to determine the extent of plans needed for review.

GENERAL SUBMITTAL REQUIREMENTS	
GAS WELL PAD SITE PERMIT	GAS WELL OPERATIONS PERMIT
<ol style="list-style-type: none"> 1. Completed, dated and signed application form. 2. Accurate legal description of the property to be used for gas operation. Property recorded by plat should reference subdivision, block and lot numbers. Unplatted property should reference abstract numbers and survey names and tract numbers if applicable. 3. All required Gas Well Pad Site Permit Fees. 4. List of names and addresses of every property owner of parcels within 1,000 feet from the proposed drilling pad site outer boundary. Provide a printed hard copy of this information as well as an MS Excel Spreadsheet or Comma Delimited File in digital format on transferable digital media. (CD-ROM 3.5" Floppy or email.) 5. Provide copies of all waivers obtained by the operator/property owner/applicant from all property owners of Residential Structures, Commercial Structures, and Public Buildings located within six hundred (600) feet of the all proposed wellheads. All waivers shall be signed by the property owner and notarized. 6. Seventy-two (72) hour ambient noise study – One (1) twenty four (24) hour day and one weekend day showing ambient levels and potential impact gas well pad site will have based on site conditions. Also show noise contours from the wellhead and effect on contours by any proposed noise mitigation steps to be taken by the operator. If required by the result of the ambient noise study a noise mitigation plan showing noised control elements and locations will be required. <p>Gas Well Pad Site Permit Site Plan Exhibit Requirements</p> <ol style="list-style-type: none"> 1. Plans must be drawn to a scale on a sheet size of ANSI B (11"X17"), ANSI C (18"X24"), ANSI D 	<ol style="list-style-type: none"> 1. Completed, dated and signed application form. 2. Notarized Statement: A notarized statement signed by the Operator, or designated representative, that the information submitted with the application is, within the personal knowledge of the operator or designated representative, true and correct. 3. All required Gas Well Operations Permit Fees. 4. Accurate legal description of the property to be used for gas operation. Property recorded by plat should reference subdivision, block and lot numbers. Unplatted property should reference abstract numbers and survey names and tract numbers if applicable. 5. Copy of Gas Well Pad Site Permit issued by the City of Euless (if approved – not required if permits are conducted concurrently) 6. Original Executed Road Damage Agreement. 7. Copy of the determination by Texas Commission on Environmental Quality (TCEQ) of the depth of usable quality groundwater. 7. Approved copy of the Railroad Commission Drilling Permit (W-1) and Pooling Certificate (P-12) for each well in this application. Provide copies of the attachments and reports required by the Commission that are applicable to the drilling and operations site. 8. Certified survey plat for the surface location, penetration point and bottom hole location of the well bore. Include the (X, Y) coordinate points in STATE PLANE, NAD83, NCT 4202 FEET projection and show the existing or proposed access routes to the pad sites. 9. Evidence of insurance and Security Requirements:

GENERAL SUBMITTAL REQUIREMENTS

GAS WELL PAD SITE PERMIT

(24"X36") or ANSI E (36"X48") Additionally please provide a digital copy of all plansets in Adobe PDF format. PDF files may be password protected to protect original vector images from use, but shall allow raster image copy for usage in presentations to the City Council if necessary. Provide digital information on a transferable digital media (CD-ROM, 3.5" Floppy, or email)

2. Names and addresses of current Property Owner of record and gas well Operator.
3. Name and address, telephone number and email address of the surveyor/engineer responsible for preparing the site plan.
4. Title block in lower right hand corner containing the name of the gas well(s) acreage of pad site and legal description of property on which the pad site is occurring.
5. Location map showing the tract by reference to streets or highways.
6. Date the site plan was prepared.
7. Written scale, graphic scale and north arrow.
8. Location and general outline of any Residential Structures, Commercial Structures, Public Buildings, Parks and Golf Courses within 1,000 feet of the gas well pad boundary.
9. Cross reference marks or numbering system to identify all property owners of Residential Structures, Commercial Structures, Public Buildings within six hundred (600) feet of the wellhead(s).
10. Location of City of Euless city limit boundary if applicable.
11. Location of all transportation routes to the gas well pad site, including the following: (1) a list of non-TxDOT public roads to be used; and the lengths in lane miles of each non TxDOT public roads to be used to access the site.
12. Location and dimensioning of existing or proposed driveways used to access the site. See

GAS WELL OPERATIONS PERMIT

- BOND OR LETTER OF CREDIT FOR SINGLE WELL – Principal amount of fifty thousand (\$50,000) dollars. See Article VII, Section 40-14 of the City of Euless Gas Well Drilling Ordinance for detail.
- BLANKET BOND OR LETTER OF CREDIT FOR MULTIPLE WELLS – Principal amount of one hundred fifty thousand (\$150,000) dollars for the first five (5) wells and an additional fifty thousand (\$50,000) dollars for each additional well. See Article VII, Section 40-14 of the City of Euless Gas Well Drilling Ordinance for detail.
- INSURANCE – Policies must be written by the insurer with A- class VIII or better rating by most current version of the A.M. Best Key Rating Guide. The following minimum coverages are for reference only:
 - Standard Commercial General Liability Policy – Combined Single Limit of \$1,000,000.
 - Excess or Umbrella Liability - \$5,000,000 if Operator has stand-alone EPL policy; \$10,000,000 if Operator does not have stand-alone EPL Policy.
 - Environmental Pollution Liability Coverage - \$1,000,000 per loss, annual aggregate of \$10,000,000.
 - Control of Well - \$5,000,000 per occurrence/ no aggregate or \$10,000,000 aggregate.
 - Workers Compensation and Employers Liability – Texas statutory limits on Worker’s Compensation \$500,000 per accident Employer’s Liability.
 - Automobile Liability – Combined Single Limit of \$1,000,000 for bodily injury and property damage.
- All policies shall be endorsed to read: THIS

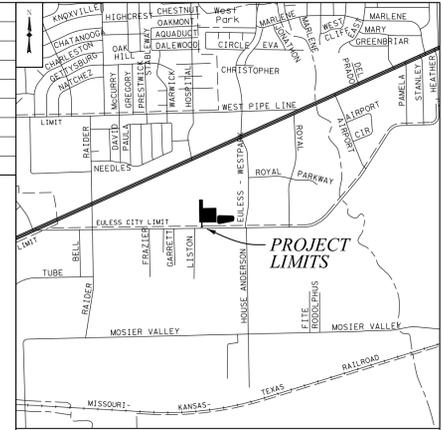
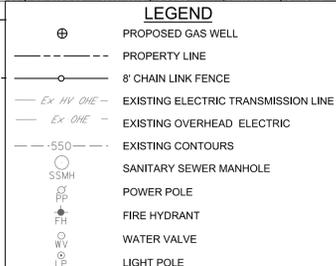
GENERAL SUBMITTAL REQUIREMENTS	
GAS WELL PAD SITE PERMIT	GAS WELL OPERATIONS PERMIT
<p>Section 40-8(C-11) for additional information.</p> <ol style="list-style-type: none"> 13. Location, type and height of any fencing proposed to be used for the security of the gas well pad site during drilling operations. Note: a separate fence permit will be required prior to installation. 14. Location and dimension of access gate. 15. Preliminary gas well pad site layout showing the exact locations of proposed wellhead(s) and preliminary locations of any drilling, storage, and support equipment to be utilized on site. This information is only required to determine if gas well pad site will accommodate required production facility setback requirements. 16. Impacted existing vegetation, including the removal of existing trees. 17. Creeks and other topographic information including the limits of 100 year floodplain. 18. Erosion control plan, Clearing and grading plan prepared by a licensed civil engineer for the site showing final drilling pad elevation. The plan shall meet the approval of the City Engineer. 19. Post-drilling production pad fencing location, type of fencing and landscape plan. Landscape plan will include a table outlining plant material species type and number, square footage of landscaped areas and notes regarding any proposed irrigation measures. 20. Show location of any fresh water ponds. Include dimensions, grading, lining plans and any potential pump/line locations servicing gas well pad sites. <p>8. Eadue</p>	<p>POLICY WILL NOT BE CANCELLED OR NON-RENEWED WITHOUT THIRTY (30) DAYS ADVANCED WRITTEN NOTICE TO THE OWNER AND THE CITY EXCEPT WHEN THIS POLICY IS BEING CANCELLED FOR NONPAYMENT OF PREMIUM, IN WHICH CASE TEN (10) DAYS ADVANCE WRITTEN NOTICE IS REQUIRED.</p> <ol style="list-style-type: none"> 10. Completed Water Needs Questionnaire (included in application packet) <p>Gas Well Operations Permit Site Plan Exhibit Requirements</p> <ol style="list-style-type: none"> 1. Plans must be drawn to a scale on a sheet size of ANSI B (11"X17"), ANSI C (18"X24"), ANSI D (24"X36") or ANSI E (36"X48") 2. Names and addresses of current Property Owner of record and gas well Operator. 3. Name and address, telephone number and email address of the surveyor/engineer responsible for preparing the site plan. 4. Title block in lower right hand corner containing the name of the gas well(s) acreage of pad site and legal description of property on which the pad site is occurring. 5. Location map showing the tract by reference to streets or highways. 6. Date the site plan was prepared. 7. Written scale, graphic scale and north arrow. 8. Detailed drawing showing wellhead(s) location, and providing the specific location of all facilities and equipment for the drilling and production phases of the gas well operations. Include dimensioning of all required setbacks of equipment from wellheads and surrounding structures as required in Section 40-15 (B). 9. A description of public utilities required during drilling and operation phases of the development. 10. Location of all existing and proposed

GENERAL SUBMITTAL REQUIREMENTS	
GAS WELL PAD SITE PERMIT	GAS WELL OPERATIONS PERMIT
	<p>underground pipelines on or adjacent to the site. Note: all pipelines located within the public right-of-way requires separate approval and a right-of-way use agreement.</p> <p>11. Response letter to Supplemental Technical Requirements Checklist (Provided in this application packet) to include appropriate responses by the Applicant/Operator/Property owner where required.</p> <p>Emergency and Hazardous Materials Plans</p> <p>1. Emergency Response Plan: Submit to the Fire Marshal (817) 685-1659 and Director of Planning and Development (817) 685-1684 an emergency response plan establishing written procedures to minimize any hazard resulting from drilling, completion or producing of gas wells</p> <p>2. Hazardous Materials Management Plan (HMMP) shall be on file with the Fire Marshal and the Director of Planning and additionally, all Material Safety Data Sheets (MSDS) for all hazardous materials that will be located, stored, transported and/or temporarily used on the operations site.</p>

CHESAPEAKE OPERATING, INC
GAS WELL PAD SITE PLAN
MIMS PROJECT
EULESS, TEXAS



NO.	OWNER NAME	OWNER ADDRESS	SITE ADDRESS
1	Parker, Roberta	11228 S Pipeline Rd Euless, TX 76040	011228 S Pipeline Rd
2	Mts Properties Llc	3 Westbrook Corp Ctr Ste 900 Westchester, IL 60154	000000 S Pipeline Rd
3	Ferguson Enterprises Inc	PO Box 2778 Newport News, VA 23609	002683 W Euless Blvd
4	Bleacher Realty Co	PO Box 8508 Houston, TX 77249	011308 S Pipeline Rd
5	Warenko Ltd	3101 Glen Dale Dr Colleyville, TX 76034	003620 Liston Ln
6	Camtech Precision Mfg	1365 Park Ln S Jupiter, FL 33458	001400 Westpark Way
7	Mts Properties Llc	3 Westbrook Corp Ctr Ste 900 Westchester, IL 60154	011312 S Pipeline Rd



LOCATION MAP
N.T.S.

- NOTES:**
- ONSITE PLANIMETRIC AND TOPOGRAPHIC MAPPING WERE SURVEYED BY HALFF ASSOCIATES IN JANUARY 2011.
 - PER THE 2009 TARRANT CO. FIRM THERE ARE NO FLOODPLAINS ASSOCIATED WITH THIS SITE.
 - A TREE SURVEY WAS CONDUCTED IN JANUARY 2011 AND A DRAWING DETAILING THE REMOVAL OF EXISTING TREES IS ATTACHED.
 - BUILDING LINES WERE GENERATED FROM THE 2009 LANDSCOR AERIAL AND ARE CONSIDERED APPROXIMATE.
 - THERE WILL BE NO PERMANENT SANITARY FACILITIES ON-SITE. ONLY TEMPORARY FACILITIES WILL BE UTILIZED DURING DRILLING.
 - ALL UTILITY SERVICES TO THIS SITE SHALL BE LOCATED UNDERGROUND, EXCEPT FOR TEMPORARY ABOVE GROUND WATER LINES.
 - NO PERMANENT LIGHT FIXTURES WILL BE INSTALLED ON LOCATION.
 - NO BUILDINGS WILL BE PLACED ON THE PROPERTY WITHOUT FURTHER PERMITTING WITH THE CITY (TYPICAL OPERATIONS DO NOT HAVE PERMANENT BUILDINGS ON THIS SITE).
 - THE DRILLING RIG LAYOUT IS APPROXIMATE. THE ACTUAL LAYOUT MAY BE MODIFIED SLIGHTLY BASED ON SITE SPECIFIC FACTORS.
 - PAD SITE FENCE SHALL NOT RESTRICT FLOW OF RUNOFF. RUNOFF SHALL NOT BE DIRECTED TO ADJACENT PROPERTIES.
 - ADJOINING PROPERTY LINES TAKEN FROM TARRANT COUNTY CENTRAL APPRAISAL DISTRICT PARCEL DATABASE.
 - FRAC POND WILL BE AERATED.
 - WITHIN EMERGENCY ACCESS DRAINAGE AND UTILITY EASEMENTS (EADUE) (AKA: FIRE LANE) THE ROADWAY SURFACE, SUBGRADE, MARKINGS, AND SIGNAGE SHALL BE MAINTAINED AT ALL TIMES TO ALLOW FOR CLEAR PASSAGE OF EMERGENCY VEHICLES. CLEAR PASSAGE SHALL INCLUDE BOTH HORIZONTAL AND VERTICAL WIDTHS ACCORDING TO CLEARANCES ESTABLISHED IN THE FIRE MARSHALLS POLICY STATEMENT.
 - ENGINEER: HALFF ASSOCIATES, INC. JARED L. CANUTSON, P.E. 1201 N. BOWSER RD. RICHARDSON, TX 75081 JAREDCANUTSON@HALFF.COM FAX: (214) 739-0095
 - GAS WELL OPERATOR: CHESAPEAKE OPERATING, INC. DUSTY ANDERSON 100 ENERGY WAY. FORT WORTH, TX 76102 TEL: (817) 502-5000 FAX: (817) 810-0170
 - SURVEYOR: HALFF ASSOCIATES, INC. VASILEIOS KALOGIROU, RPLS 1201 N. BOWSER RD. RICHARDSON, TX 75081 VKALOGIROU@HALFF.COM FAX: (214) 739-0095
 - PROPERTY OWNER: CHESAPEAKE LAND COMPANY, L.L.C. 6100 N. WESTERN AVE. OKLAHOMA CITY, OK 73154 TEL: (405) 848-8000 FAX: (405) 849-2532

LEGAL DESCRIPTION
MIMS PAD

Being a tract of land situated in the Kitty House Survey, Abstract Number 678 and the J. A. Groves Survey, Abstract Number 599, City of Euless, Tarrant County, Texas, being part of a called 11.70 acre tract described in special warranty deed to Chesapeake Land Development Company, L.L.C., as recorded in Instrument Number 0210287132 of the Deed Records of Tarrant County, Texas (D.R.T.C.T.), and being more particularly described as follows:

COMMENCING at a 5/8 inch found iron rod with a TXDOT aluminum disk having NAD 83 coordinates of Northing=6,982,105.22 feet and Easting=2,390,422.75 feet, same being the southwest corner of said called 11.70 acre tract and the southeast corner of a called 15,190 acre tract described in deed to the State of Texas, as recorded in Volume 14562, Page 207, D.R.T.C.T., said corner also being in the north right-of-way line of South Pipeline Road (variable width right-of-way);

Thence North 89 degrees 26 minutes 27 seconds East, along the south line of said called 11.70 acre tract and along said north right-of-way line of South Pipeline Road, a distance of 70.21 feet to a point for corner;

Thence North 00 degrees 43 minutes 48 seconds West, departing said north right-of-way line of South Pipeline Road, 70.21 feet east of and parallel to the west line of said called 11.70 acre tract, a distance of 105.77 feet to the POINT OF BEGINNING for the southwest corner of the herein described tract;

Thence North 00 degrees 43 minutes 48 seconds West, continuing 70.21 feet east of and parallel to the west line of said called 11.70 acre tract, a distance of 540.00 feet to a point for corner;

Thence North 89 degrees 26 minutes 27 seconds East, a distance of 90.00 feet to a point for corner;

Thence South 00 degrees 43 minutes 48 seconds East, a distance of 200.00 feet to a point for corner;

Thence North 89 degrees 26 minutes 27 seconds East, a distance of 317.50 feet to a point for corner;

Thence South 00 degrees 43 minutes 48 seconds East, a distance of 340.00 feet to a point for corner;

Thence South 89 degrees 26 minutes 27 seconds West, 105.77 feet north of and parallel to said south line of said called 11.70 acre tract and said north right-of-way line of South Pipeline Road, a distance of 407.50 feet to THE POINT OF BEGINNING AND CONTAINING 156,551 square feet or 3.594 acres of land, more or less.

Revision No.	Date	Description

These plans have been reviewed and approved by a Chesapeake Field Representative.

Signature: _____
 Printed Name: _____
 Date: _____

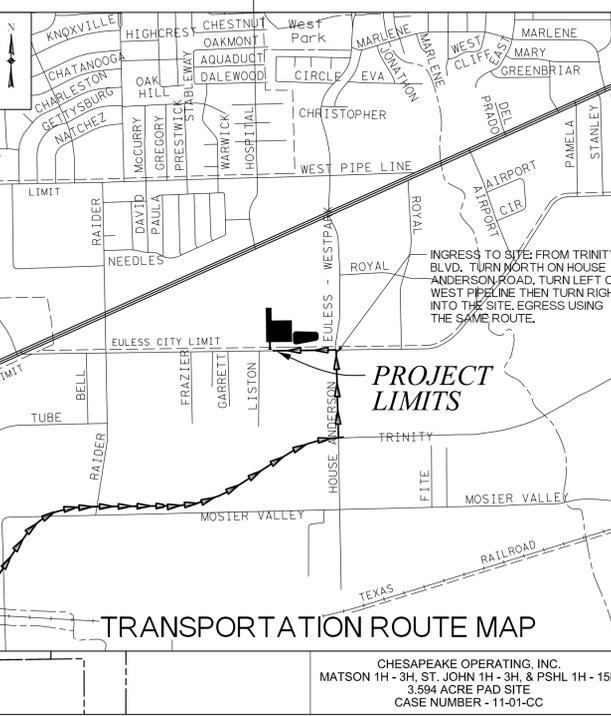
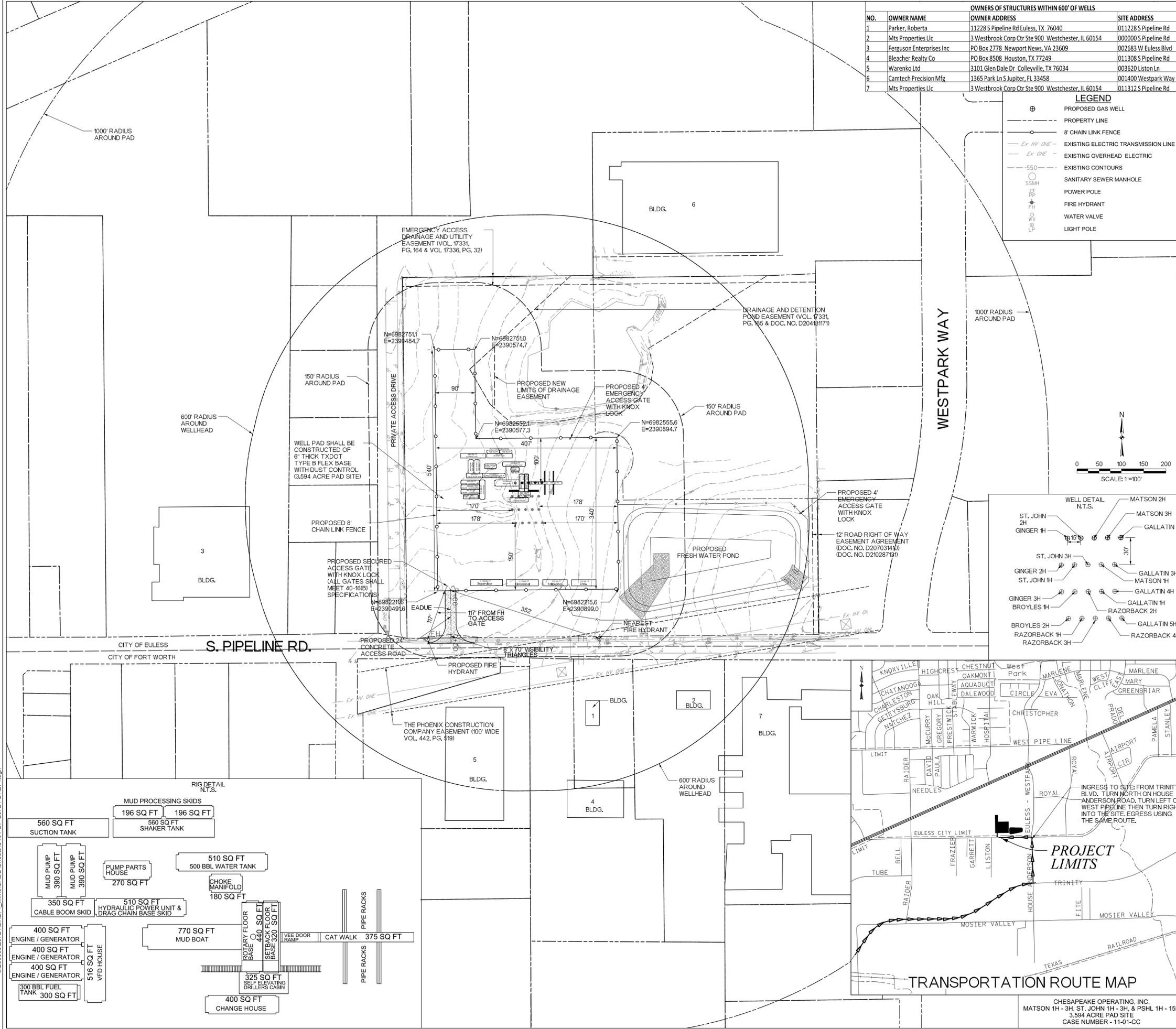


HALFF ASSOCIATES, INC.
 PRELIMINARY - FOR INTERIM REVIEW ONLY
 These documents are for Interim Review and not intended for construction, signing or permit purposes. They were prepared by, or under the supervision of, JARED L. CANUTSON, LICENSED PROFESSIONAL ENGINEER, No. 110008, State of Texas.

Project No.: 26724 / DR274
 Issued: 4/15/2011
 Drawn By: BDL
 Checked By: JME
 Scale: AS NOTED

Sheet Title
GAS WELL PAD SITE PLAN

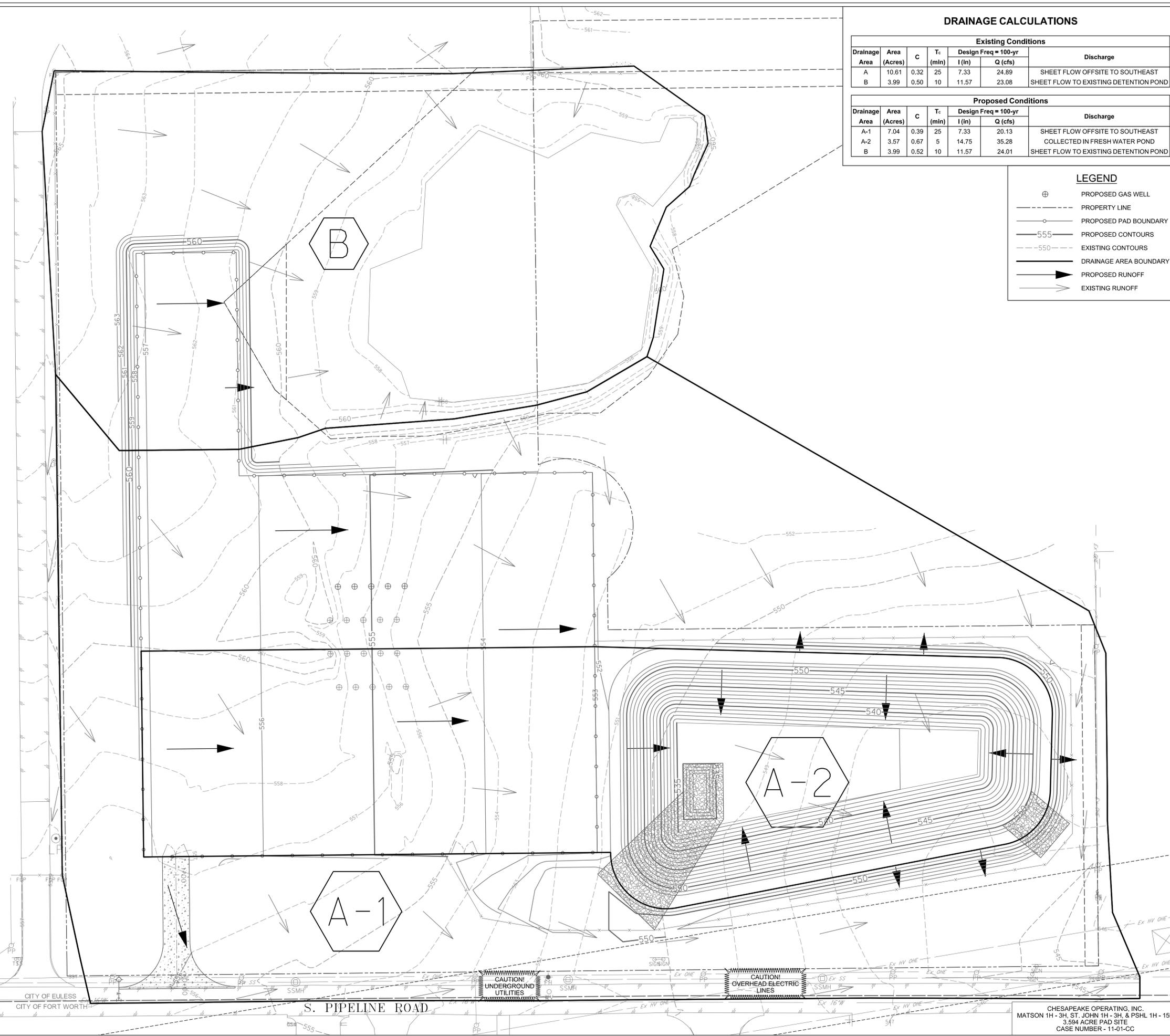
C1.01
 Sheet Number



CHESAPEAKE OPERATING, INC.
 MATSON 1H - 3H, ST. JOHN 1H - 3H, & PSHL 1H - 15H
 3.594 ACRE PAD SITE
 CASE NUMBER - 11-01-CC

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SUSERSCLIENTS\FFILES



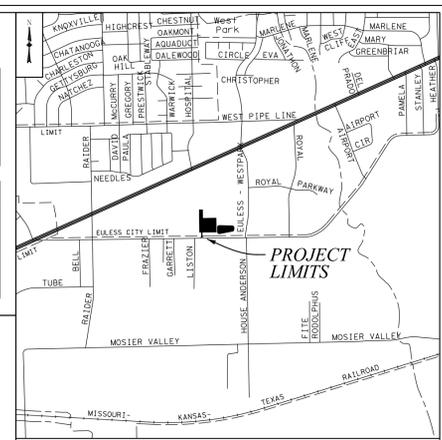
DRAINAGE CALCULATIONS

Drainage Area	Area (Acres)	C	Tc (min)	Existing Conditions		Discharge
				Design Freq	Q (cfs)	
A	10.61	0.32	25	7.33	24.89	SHEET FLOW OFFSITE TO SOUTHEAST
B	3.99	0.50	10	11.57	23.08	SHEET FLOW TO EXISTING DETENTION POND

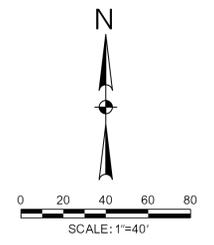
Drainage Area	Area (Acres)	C	Tc (min)	Proposed Conditions		Discharge
				Design Freq = 100-yr	Q (cfs)	
A-1	7.04	0.39	25	7.33	20.13	SHEET FLOW OFFSITE TO SOUTHEAST
A-2	3.57	0.67	5	14.75	35.28	COLLECTED IN FRESH WATER POND
B	3.99	0.52	10	11.57	24.01	SHEET FLOW TO EXISTING DETENTION POND

LEGEND

- ⊕ PROPOSED GAS WELL
- PROPERTY LINE
- PROPOSED PAD BOUNDARY
- 555--- PROPOSED CONTOURS
- 550--- EXISTING CONTOURS
- DRAINAGE AREA BOUNDARY
- ▶ PROPOSED RUNOFF
- ▶ EXISTING RUNOFF



LOCATION MAP



CHESAPEAKE OPERATING, INC

MIMS PROJECT
EULESS, TEXAS



Revision No.	Date	Description

These plans have been reviewed and approved by a Chesapeake Field Representative.

Signature: _____
 Printed Name: _____
 Date: _____



HALFF ASSOCIATES, INC.
 PRELIMINARY - FOR INTERIM REVIEW ONLY
 These documents are for Interim Review and not intended for Construction, Bidding, or Permit Purposes. They were prepared by, or under the supervision of, a Professional Engineer.
 JARROL CANITRECH 10/10/08 E-012 05/11/11
 EX - Field Note

Project No.:	26724 / DR274
Issued:	03-30-2011
Drawn By:	JLC
Checked By:	JME
Scale:	AS NOTED
Sheet Title:	DRAINAGE AREA MAP

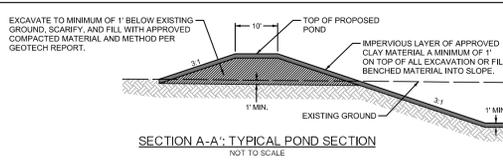
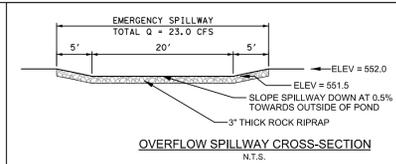
C2.01
Sheet Number

CHESAPEAKE OPERATING, INC.
 MATSON 1H - 3H, ST. JOHN 1H - 3H, & FSHL 1H - 15H
 3.594 ACRE PAD SITE
 CASE NUMBER - 11-01-CC

CAUTION! UNDERGROUND UTILITIES

CAUTION! OVERHEAD ELECTRIC LINES

CITY OF EULESS
 CITY OF FORT WORTH
 S. PIPELINE ROAD



LEGEND

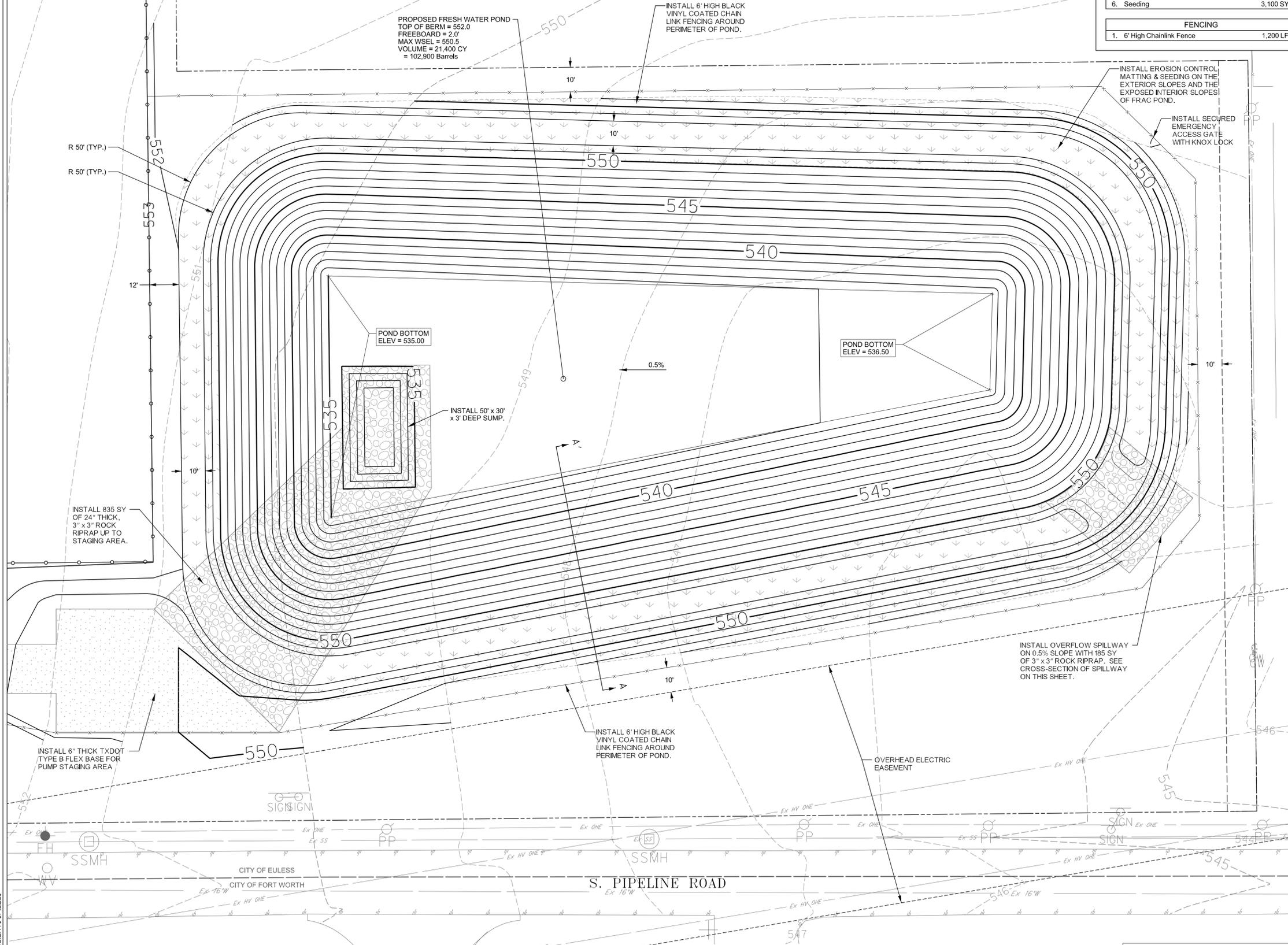
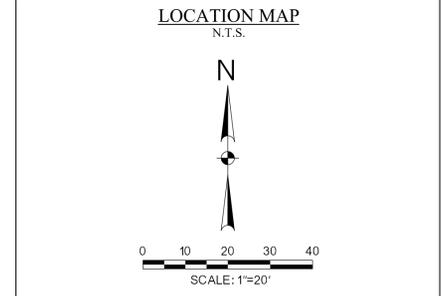
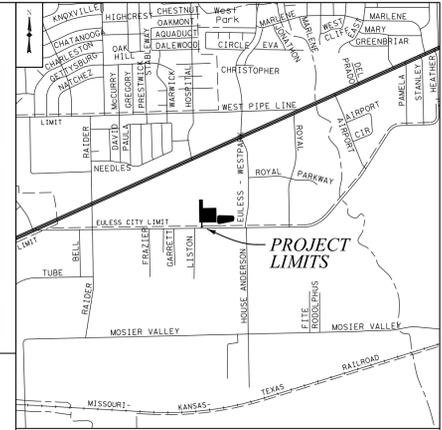
- PROPERTY LINE
- - - EASEMENT LINE
- PROPOSED PAD BOUNDARY
- 555 — PROPOSED CONTOURS
- 550 — EXISTING CONTOURS
- ▨ ROCK RIPRAP
- ▨ MATTING & SEEDING

POND CONSTRUCTION QUANTITIES

EARTHWORK	
1. Clear and Grub	2.30 acres
2. Cut	23,800 CY
3. Fill	10,500 CY
4. Imported Clay Fill	-

EROSION CONTROL	
1. Rock Riprap	1,050 SY
2. 6" Thick TxDOT Type B Flex Base	590 SY
3. Silt Fence	940 LF
4. Rock Filter Dam	40 LF
5. Erosion Control Matting	3,100 SY
6. Seeding	3,100 SY

FENCING	
1. 6' High Chainlink Fence	1,200 LF



- GENERAL NOTES**
- ALL CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND STANDARDS. THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, FOURTH EDITION, SHALL GOVERN FOR ALL WORK ON THIS PROJECT.
 - UNLESS OTHERWISE SPECIFIED, ALL SITE WORK DETAILS SHALL BE DONE IN ACCORDANCE WITH THE STANDARD DETAILS OF THE CITY OF EULESS AND CONFORM TO THE REQUIREMENTS OF THE PLANS AND CONTRACT DOCUMENTS.
 - WITHIN EMERGENCY ACCESS DRAINAGE AND UTILITY EASEMENTS (E.A.D.U.E.) (AKA: FIRE LANES) THE ROADWAY SURFACE, SUBGRADE, MARKINGS, AND SIGNAGE SHALL BE MAINTAINED AT ALL TIMES TO ALLOW FOR THE CLEAR PASSAGE OF EMERGENCY VEHICLES. CLEAR PASSAGE SHALL INCLUDE BOTH HORIZONTAL AND VERTICAL WIDTHS ACCORDING TO CLEARANCES ESTABLISHED IN THE FIRE MARSHAL'S POLICY STATEMENT.
 - THE FRAC POND SHALL BE AERATED.
 - THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THESE PLANS WERE DEVELOPED SOLELY FROM INFORMATION PROVIDED BY OTHERS. NO ATTEMPT HAS BEEN MADE BY THE DESIGN ENGINEER TO VERIFY THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED. ALL UTILITIES MAY NOT BE SHOWN OR EXIST WHERE DEPICTED. UTILITIES ARE SHOWN SCHEMATICALLY FOR CONTRACTOR'S GUIDANCE ONLY.
 - IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY AND LOCATE ALL UTILITIES WHICH MAY BE AFFECTED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. SUCH VERIFICATION SHALL INCLUDE, BUT NOT NECESSARILY BE LIMITED TO, CONTACTING ALL UTILITY COMPANIES / OWNERS FOR COORDINATION AND IDENTIFICATION / FLAGGING OF EXISTING UTILITIES. IN THE EVENT THAT A CONFLICT WITH AN UNDERGROUND UTILITY IS DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
 - THE CONTRACTOR SHALL TAKE ANY AND ALL NECESSARY MEASURES TO PROTECT ALL EXISTING STRUCTURES, IMPROVEMENTS, AND UTILITIES WHICH MAY BE ENCOUNTERED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DAMAGES TO EXISTING UTILITIES, STRUCTURES, PROPERTY, AND/OR PERSONS CAUSED BY HIS CONSTRUCTION OPERATIONS, AND/OR ANY CONSEQUENT DAMAGES TO OTHER FACILITIES AND PERSONS CAUSED BY DAMAGES TO EXISTING UTILITIES.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS OF THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
 - ALL FILL SHALL BE COMPACTED IN 8 INCH LIFTS AND SHALL BE MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR DENSITY (ASTM D698), AT A MOISTURE CONTENT NEAR OPTIMUM (-1% TO +3%).
 - THE CONTRACTOR SHALL ENSURE THROUGH A FINAL SITE CLEAN-UP THAT ALL DEBRIS AND UNWARRANTED MATERIAL IS REMOVED AND DISPOSED OF OFF-SITE.
 - ALL EXPOSED SLOPES ON THE FRAC POND SHALL HAVE EROSION CONTROL MATTING PLACED AND SHALL BE SEED TO PREVENT EROSION.

CHESAPEAKE OPERATING, INC
MIMS PROJECT
EULESS, TEXAS

HALFF
 1201 NORTH BOWSER ROAD
 RICHARDSON, TEXAS 75081-2275
 TEL: (214) 346-6000
 FAX: (214) 346-6005

Revision No.	Date	Description

These plans have been reviewed and approved by a Chesapeake Field Representative.

Signature: _____
 Printed Name: _____
 Date: _____



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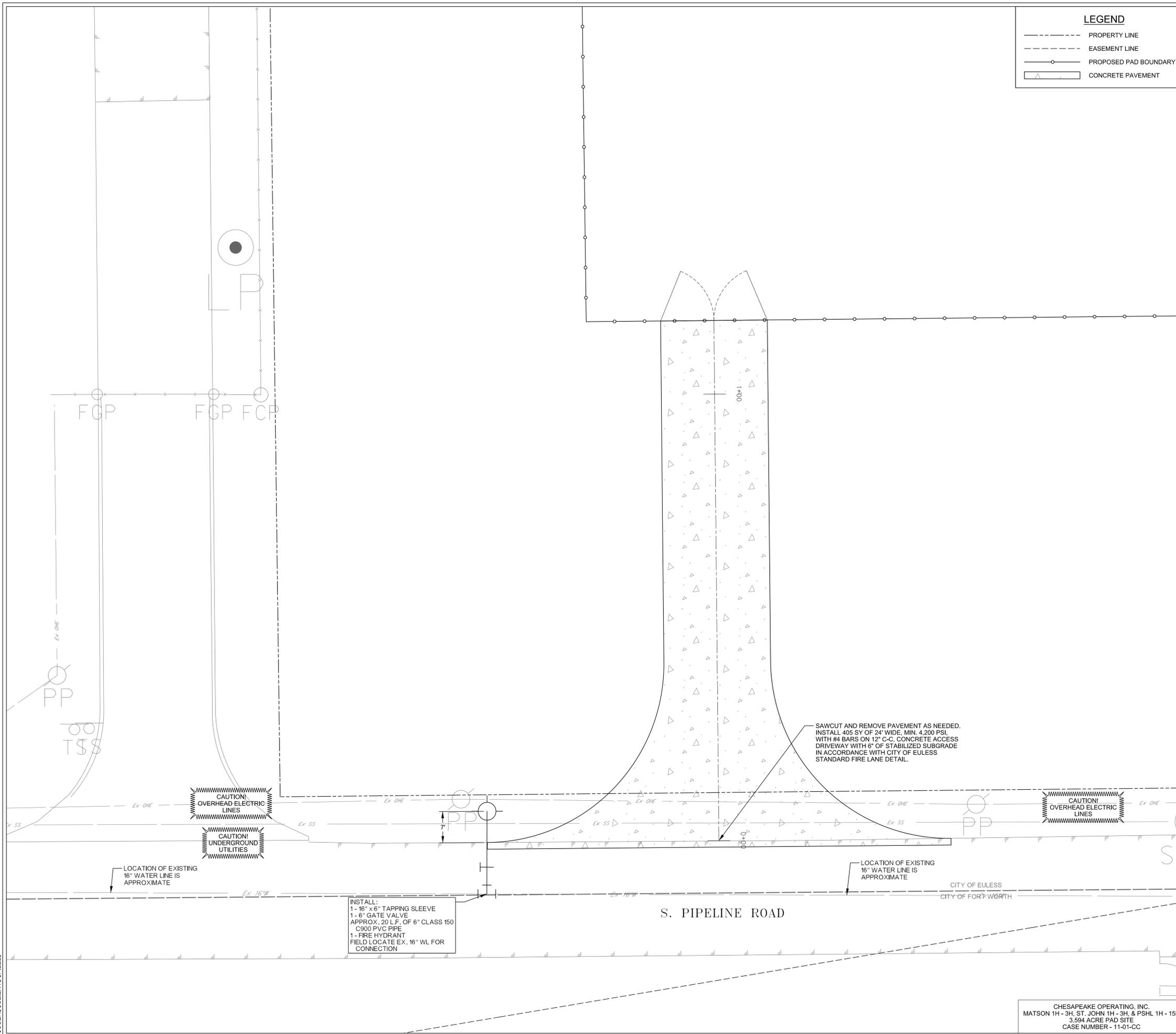
Project No.:	26724 / DR274
Issued:	03-30-2011
Drawn By:	JLC
Checked By:	JME
Scale:	AS NOTED
Sheet Title	GRADING PLAN - FRESH WATER POND

C4.02
 Sheet Number

CHESAPEAKE OPERATING, INC.
 MATSON 1H - 3H, ST. JOHN 1H - 3H, & FSHL 1H - 15H
 3.594 ACRE PAD SITE
 CASE NUMBER - 11-01-CC

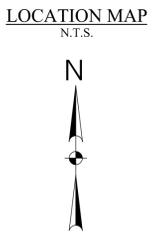
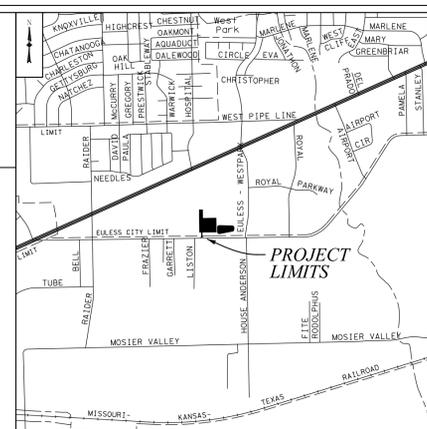
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LEGEND

- PROPERTY LINE
- - - EASEMENT LINE
- PROPOSED PAD BOUNDARY
- ▴ CONCRETE PAVEMENT



GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE CITY OF EULESS SPECIFICATIONS AND STANDARD DETAILS. THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) PUBLIC WORKS CONSTRUCTION STANDARDS, OCTOBER 2004 SHALL GOVERN FOR WORK NOT SPECIFICALLY COVERED BY THE CITY OF EULESS STANDARDS.
- CONTRACTOR IS RESPONSIBLE FOR, AND MUST OBTAIN PRIOR TO CONSTRUCTION, ALL NECESSARY CONSTRUCTION PERMITS REQUIRED BY THE CITY OF EULESS.
- UNLESS OTHERWISE SPECIFIED, ALL SITE WORK DETAILS SHALL BE DONE IN ACCORDANCE WITH THE STANDARD DETAILS OF THE CITY OF EULESS AND CONFORM TO THE REQUIREMENTS OF THE PLANS AND CONTRACT DOCUMENTS.
- ONSITE PLANIMETRIC AND TOPOGRAPHIC MAPPING WAS SURVEYED BY HALFF ASSOCIATES IN JANUARY 2011.
- ALL 6" WATER LINES SHALL BE CLASS 150 (DR18) AWWA C900 PVC PIPE.
- EXISTING UTILITY LOCATIONS SHOWN ARE TAKEN FROM AVAILABLE RECORDS PROVIDED BY THE UTILITY OWNER AND FIELD LOCATIONS OF SURFACE APPURTENANCES. LOCATIONS SHOWN ARE GENERALLY SCHEMATIC IN NATURE AND MAY NOT ACCURATELY REFLECT THE SIZE AND LOCATION OF EACH PARTICULAR UTILITY. SOME UTILITY LINES MAY NOT BE SHOWN. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ACTUAL FIELD LOCATION AND PROTECTION OF EXISTING FACILITIES WHETHER SHOWN OR NOT. CONTRACTOR SHALL ALSO ASSUME RESPONSIBILITY FOR REPAIRS TO EXISTING FACILITIES, WHETHER SHOWN OR NOT, DAMAGED BY CONTRACTOR'S ACTIVITIES. DIFFERENCES IN HORIZONTAL OR VERTICAL LOCATION OF EXISTING UTILITIES SHALL NOT BE A BASIS FOR ADDITIONAL EXPENSE.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO:
 - PREVENT ANY DAMAGE TO PRIVATE PROPERTY AND PROPERTY OWNER'S POLES, FENCES, SHRUBS, ETC.
 - PROVIDE ACCESS TO ALL DRIVES DURING CONSTRUCTION.
 - PROTECT ALL UNDERGROUND UTILITIES TO REMAIN IN SERVICE.
 - NOTIFY ALL UTILITY COMPANIES AND VERIFY LOCATION OF ALL UTILITIES PRIOR TO START OF CONSTRUCTION.
- THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS GOVERNING EXCAVATION. THE CONTRACTOR SHALL PROVIDE DETAILED PLANS AND SPECIFICATIONS FOR TRENCH SAFETY SYSTEMS THAT COMPLY WITH APPLICABLE LAWS GOVERNING EXCAVATION. THESE PLANS SHALL BE SEALED BY AN ENGINEER EXPERIENCED IN THE DESIGN OF TRENCH SAFETY SYSTEMS AND LICENSED BY THE STATE OF TEXAS. SUBMIT PLAN TO THE OWNER PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL ASPECTS OF WORK RELATED TO EXCAVATION.
- ANY DAMAGES THAT MAY OCCUR TO REAL PROPERTY OR EXISTING IMPROVEMENTS SHALL BE RESTORED BY THE CONTRACTOR TO AT LEAST THE SAME CONDITION THAT THE REAL PROPERTY OR EXISTING IMPROVEMENTS WERE IN PRIOR TO THE DAMAGES. THIS RESTORATION SHALL BE SUBJECT TO THE OWNER'S APPROVAL. MOREOVER, THIS RESTORATION SHALL NOT BE A BASIS FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR. RESTORATION SHALL INCLUDE, BUT NOT BE LIMITED TO, REGRASSING, REVEGETATION, REPLACING FENCES, REPLACING TREES, ETC.
- CONTRACTOR SHALL MAINTAIN EXISTING SANITARY SEWER AND WATER SERVICE AT ALL TIMES DURING CONSTRUCTION.
- CONTRACTOR SHALL LOCATE AND ADJUST EXISTING UTILITY MANHOLE LIDS, CLEANOUTS, WATER VALVES AND OTHER SURFACE APPURTENANCES AS REQUIRED FOR NEW CONSTRUCTION. CONTRACTOR SHALL COORDINATE UTILITY ADJUSTMENTS WITH OTHER DISCIPLINES AND THE APPROPRIATE UTILITY AGENCIES AND PROVIDE FOR ALL FEES FOR PERMITS, CONNECTIONS, INSPECTIONS, ETC.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH UTILITY COMPANIES AND ADJUSTMENT OF EXISTING SANITARY SEWER CLEANOUTS, WATER METERS, AND ANY OTHER APPURTENANCES TO NEW GRADE AS REQUIRED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, INSPECTION AND TESTING REQUIRED BY THE OWNER AND/OR THE CITY OF EULESS.
- ALL UTILITY SERVICES TO THIS SITE SHALL BE LOCATED UNDERGROUND, EXCEPT FOR TEMPORARY ABOVE GROUND WATER LINES.

CHESAPEAKE OPERATING, INC

HALFF
 1201 NORTH BOWSER ROAD
 RICHARDSON, TEXAS 75081-2275
 TEL: (214) 366-0000
 FAX: (214) 366-0005

Revision No.	Date	Description

These plans have been reviewed and approved by a
 Chesapeake Field Representative.

Signature: _____
 Printed Name: _____
 Date: _____

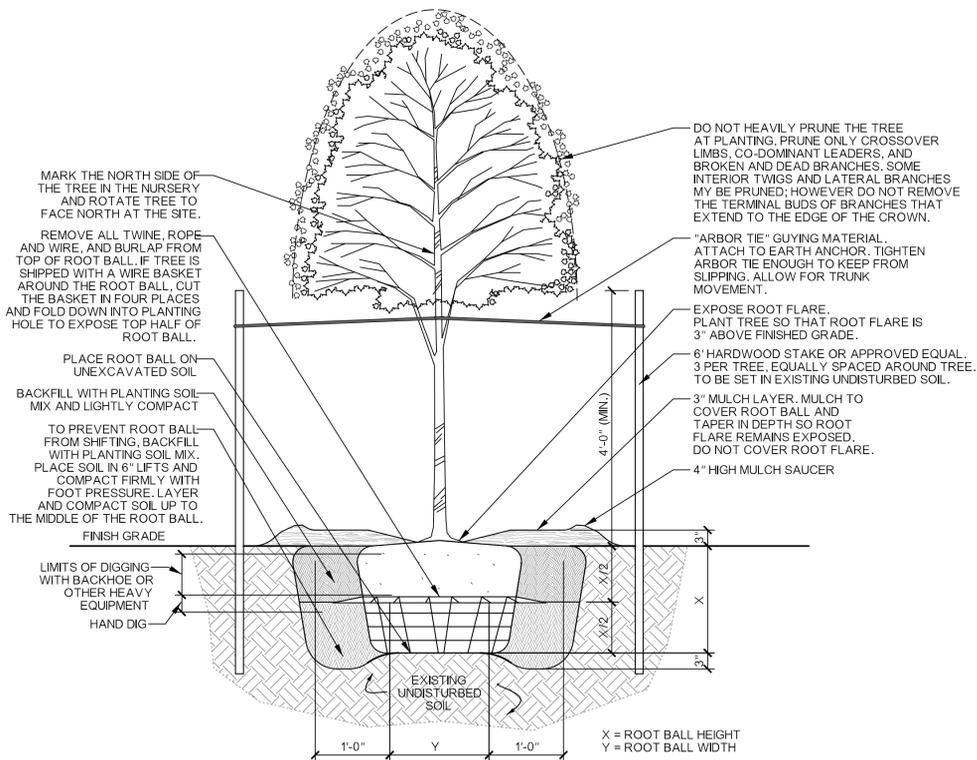


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 JARED CANTRISS 10036 E-022 SEATTLE WA 98148
 EX File Date

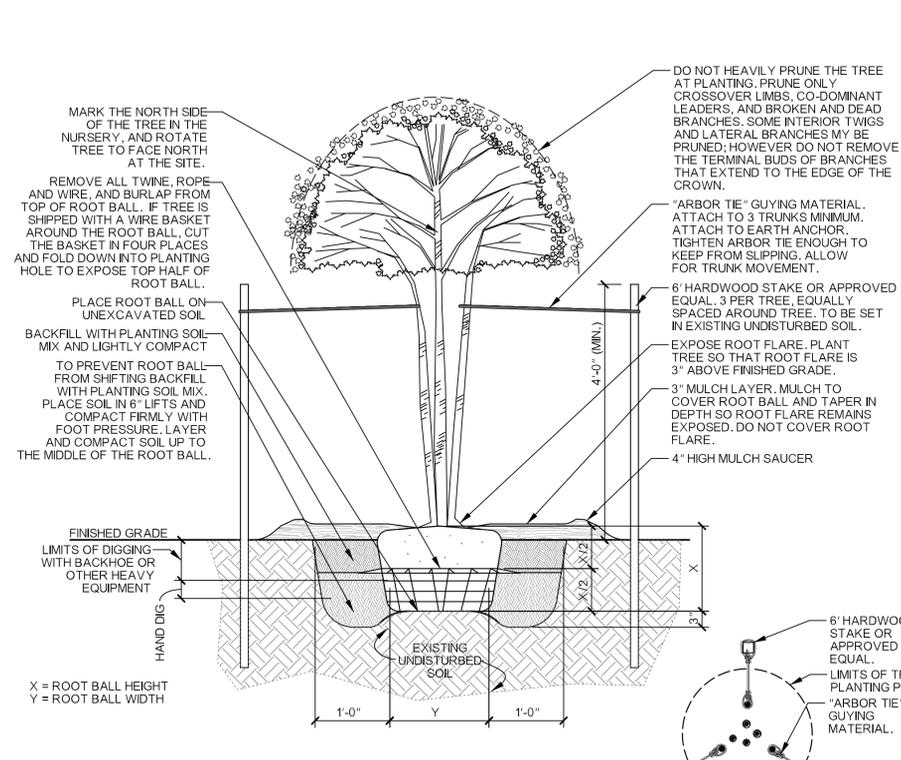
Project No.:	26724 / DR274
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Checked By:	JME
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Sheet Title:	PAVING / WATER PLAN

C5.01
 Sheet Number

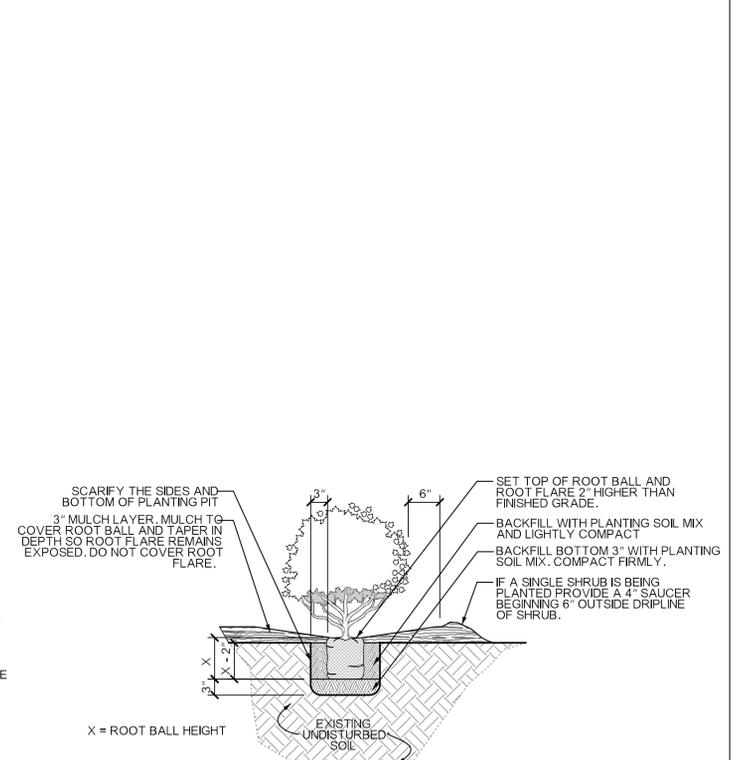
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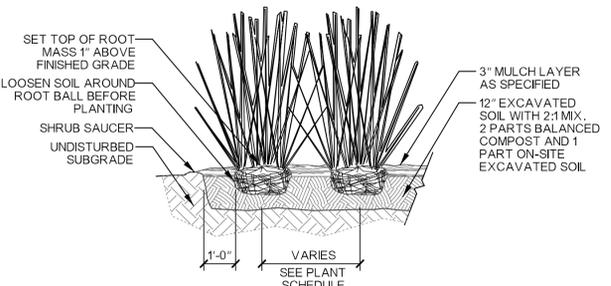
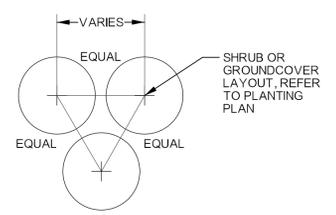
01 SINGLE-TRUNK TREE WITH STAKES
SCALE: 3/4"=1'-0"



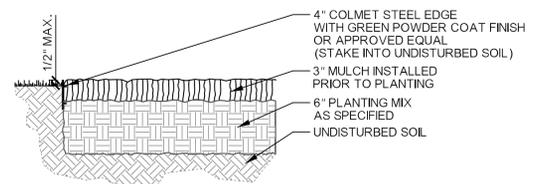
02 MULTI-TRUNK TREE WITH STAKES
SCALE: 3/4"=1'-0"



03 SHRUB PLANTING DETAIL
SCALE: 3/4"=1'-0"



04 ORNAMENTAL GRASS
SCALE: 3/4"=1'-0"



05 LANDSCAPE EDGE (TYP.)
SCALE: 3/4"=1'-0"

PLANT SCHEDULE								
QUANTITY	COMMON NAME	SCIENTIFIC NAME	SIZE	HEIGHT	SPREAD	SPACING	GENERAL NOTES	
SHADE TREES								
4	CHINQUAPIN OAK	<i>QUERCUS MUHLENBERGII</i>	3"	10' - 12'	4'-6"	AS SHOWN	B&B, FULL, HEALTHY, WELL FORMED, STRAIGHT TRUNK	
3	CEDAR ELM	<i>ULMUS CRASSIFOLIA</i>	3"	10' - 12'	4'-6"	AS SHOWN	B&B, FULL, HEALTHY, WELL FORMED, STRAIGHT TRUNK	
3	LIVE OAK	<i>QUERCUS VIRGINIANA</i>	3"	10' - 12'	4'-6"	AS SHOWN	B&B, FULL, HEALTHY, WELL FORMED, STRAIGHT TRUNK	
15	TEXAS REDBUD	<i>CERCIS CANADENSIS VAR. TEXENSIS</i>	AS SHOWN	10' - 12'	4'-6"	AS SHOWN	B&B, FULL, HEALTHY, WELL FORMED	
12	WAX MYRTLE	<i>MYRICA CERIFERA</i>	AS SHOWN	10' - 12'	4'-6"	AS SHOWN	B&B, FULL, HEALTHY, WELL FORMED	
SHRUBS								
123	DWARF GLOSSY ABELIA	<i>ABELIA X GRANDIFLORA</i>	5 GAL	2'-3'	2'-3'	36" O.C.	NURSERY GROWN, FULL, HEALTHY, WELL FORMED	
96	NELLIE R. STEVENS HOLLY	<i>ILEX X NELLIE R. STEVENS'</i>	10 GAL	3'-4'	2'-3'	6" O.C.	NURSERY GROWN, FULL, HEALTHY, WELL FORMED	
42	MISCANTHUS 'MORNING LIGHT'	<i>MISCANTHUS SINENSIS 'MORNING LIGHT'</i>	3 GAL	2'-3'	1'-3'	4" O.C.	NURSERY GROWN, FULL, HEALTHY, WELL FORMED	
SOD GRASSES AND SEED								
T.B.D.	BERMUDAGRASS	<i>CYNODON DACTYLON</i>	HYDROMULCH: 4 POUNDS PER 1,000 SF			98% WEED FREE, 85% GERMINATION, SEED TO BE CERTIFIED BY THE TEXAS DEPARTMENT OF AGRICULTURE AS COMMON BERMUDAGRASS		
LANDSCAPE BEDS								
810 L.F.	STEEL EDGE	COLMET, ITEM #1007, 10' X 7 GA. (3/16") COMMERCIAL GRADE, GREEN						
T.B.D.	LANDSCAPE MULCH	FINE CUT HARDWOOD MULCH, Ph 6.5-8.5, 3/8" TO 1" SIZE, INSTALL WITH FILTER FABRIC						

PLANTING SPECIFICATIONS

PREPARATION
LANDSCAPE CONTRACTOR AND REPRESENTATIVE OF OWNER SHALL BE RESPONSIBLE FOR VERIFYING THE CORRECT LOCATION OF ALL UNDERGROUND UTILITIES, PIPES, STRUCTURES, AND LINE RUNS IN THE FIELD PRIOR TO THE INSTALLATION OF ANY PLANT MATERIALS.

PLANT LOCATIONS
REFER TO PLANTING PLAN FOR PLANTING LOCATION AND PLANT MATERIAL LEGEND FOR SPECIFICATIONS. MATERIAL LOCATION TO BE STAKED IN THE FIELD AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANTING

GRADING AND DRAINAGE
Half Associates, Inc. ASSUMES NO RESPONSIBILITY FOR FAILURE OF ANY HARDSCAPE AMENITY SUCH AS WALKS, ENTRANCES TO STRUCTURES, AND PLANTER BEDS FORMED OR ENCLOSED BY EDGING AND FLAT WORK WHICH DO NOT DRAIN DUE TO IMPROPER SET UP OF ELEVATIONS DURING CONSTRUCTION. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR FINE GRADING, AND VERIFYING THAT WATER DRAINS AWAY FROM BUILDING.

COORDINATION
LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER CONTRACTORS ON SITE AS REQUIRED TO ACCOMPLISH ALL PLANTING OPERATIONS.

MAINTENANCE
LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL PLANTING BEDS IN A WEED AND DEBRIS FREE CONDITION AND SHALL ACCOMPLISH WATERING BY HAND AS DEEMED NECESSARY UNTIL SUBSTANTIAL COMPLETION AND ACCEPTANCE BY THE OWNER. THE CONTRACTOR SHALL MAINTAIN ALL WORK FOR A PERIOD OF 30 DAYS AFTER SUBSTANTIAL COMPLETION AND ACCEPTANCE.

VERIFICATION
LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL QUANTITIES PER DRAWINGS AND SPECIFICATION BY LANDSCAPE ARCHITECT. PLANT QUANTITIES HAVE BEEN PROVIDED AS A CONVENIENCE ONLY AND SHALL NOT BE CONSIDERED ABSOLUTE. LANDSCAPE ARCHITECT TO BE NOTIFIED IF DISCREPANCIES OCCUR. OTHERWISE, THE CONTRACTOR IS TO BID THEIR OWN VERIFIED QUANTITIES PER LANDSCAPE PLAN.

PLANTING BEDS
ALL BED AREAS ARE TO BE LEFT 3" ABOVE FINISHED GRADE OF ADJACENT PAVEMENT TO INCLUDE 3" OF MULCH AFTER COMPACTION AND SETTLEMENT. ALL BED AREAS SHALL BE ROTOTILLED TO A DEPTH OF 6", ADDING PREPARED SOIL MIXTURE AS REQUIRED.

MULCH
AFTER SETTLEMENT AND COMPACTION, ALL PLANTING BEDS SHALL RECEIVE A MINIMUM 3" LAYER OF MULCH. ALL AREAS DISTURBED BY PLANTING OPERATIONS SHALL BE FINE GRADED AND RE SEEDDED.

PLANT MATERIAL STANDARDS
ALL PLANT MATERIAL SHALL CONFORM TO THE SIZES GIVEN IN THE PLANT LIST AND SHALL BE NURSERY GROWN IN ACCORDANCE WITH THE "AMERICAN STANDARD FOR NURSERY STOCK", LATEST EDITION. ALL PLANTING SHALL BE IN ACCORDANCE WITH STANDARD AMERICAN ASSOCIATION OF NURSERYMEN PROCEDURES AND SPECIFICATIONS. LANDSCAPE ARCHITECT SHALL APPROVE ANY PLANT SUBSTITUTION.

PRUNING
ALL TREES ARE TO BE PRUNED AT TIME OF INSTALLATION TO REMOVE DEAD AND UNSIGHTLY LIMBS. ALL TREES ARE TO MATCH IN HEIGHT, SPREAD, AND CLEAR TRUNK, AND SHALL HAVE STRAIGHT TRUNKS.

TREE SUPPORT
TREES SHALL BE SUPPORTED WITH THE APPROVED METHOD FOR A PERIOD OF ONE YEAR AT WHICH TIME THE OWNER SHALL DETERMINE IF REMOVAL IS NECESSARY.

WARRANTY
ALL PLANT MATERIAL TO BE GUARANTEED FOR A PERIOD OF ONE-YEAR FROM SUBSTANTIAL COMPLETION AND ACCEPTANCE BY THE OWNER.

IRRIGATION SYSTEM
IRRIGATION CONTRACTOR TO INSTALL NEW IRRIGATION SYSTEM TO PROVIDE 100% COVERAGE FOR AFFECTED TURF AND BED AREAS.

PLANTING SOIL MIXTURE
50% SAND AND SOIL MIX (SEE DESCRIPTION BELOW)
50% BALANCED COMPOST (SEE DESCRIPTION BELOW)

SAND AND SOIL MIX DESCRIPTION:
SHARP SAND: SAND EXCAVATED FROM A MINIMUM OF 20 FEET BELOW GROUND LEVEL.
SCREENED NATIVE SOIL: WELL ADAPTED NATIVE SOIL FROM SOURCES A MAXIMUM DISTANCE OF 200 MILES FROM THE PROJECT SITE.

BALANCED COMPOST DESCRIPTION:
WELL-COMPOSTED, MANUFACTURED SOIL BLENDS STABLE, AND WEED-FREE ORGANIC MATTER
PH RANGE OF 5.5 TO 8;
MOISTURE CONTENT 35 TO 55 PERCENT BY WEIGHT
100 PERCENT PASSING THROUGH 1-INCH SIEVE
SOLUBLE SALT CONTENT OF 5 TO 10 DECISEMENS/M
NOT EXCEEDING 0.5 PERCENT INERT CONTAMINANTS AND FREE OF SUBSTANCES TOXIC TO PLANTINGS, PURELY EXCAVATED SOIL WILL NOT BE PERMITTED.
COMPOST CAN HAVE MATERIALS AS FOLLOWS:
1. WOOD DERIVATIVES: DECOMPOSED, NITROGEN-TREATED SAWDUST, GROUND BARK, OR WOOD WASTE; OF UNIFORM TEXTURE AND FREE OF CHIPS, STONES, STICKS, SOIL, OR TOXIC MATERIAL.
a. LUMBER, EITHER TREATED OR UNTREATED, PALLETS OR CONSTRUCTION WASTE WILL NOT BE PERMITTED AS A WOOD DERIVATIVE
2. MANURE: WELL-ROTTED, UNLEACHED, STABLE OR CATTLE MANURE CONTAINING NOT MORE THAN 25 PERCENT BY VOLUME OF STRAW, SAWDUST, OR OTHER BEDDING MATERIALS; FREE OF TOXIC SUBSTANCES, STONES, STICKS, SOIL, WEED SEED, DEBRIS, AND MATERIAL HARMFUL TO PLANT GROWTH
a. SEWAGE, SLUDGE, AND RAW MANURE WILL NOT BE PERMITTED
3. LANDSCAPE TRIMMINGS: DECOMPOSED GRASS, LEAVES, WOOD CHIPS, OR BRUSH; OF UNIFORM TEXTURE AND FREE OF STICKS, STONES, OR TOXIC MATERIAL
4. ADDITIONAL REQUIREMENTS:
a. DEVELOPED USING AN EXTENSIVE AEROBIC COMPOSTING PROCESS.
b. SCHEDULED TURNS WITH A MINIMUM OF 5 TURNS.
c. COMPLETELY COMPOSTED FOR A MINIMUM OF 6-12 MONTHS
d. ACHIEVES A SOLVITA "COMPOST MATURITY" INDEX VALUE OF 7 OR HIGHER
e. MEET OR EXCEED THE TIME AND TEMPERATURE STANDARDS SET IN T.A.C. CHAPTER 332, SUBCHAPTER B, PART 23 AS REQUIRED BY THE TCEQ/TNRCC
f. MEET FEDERAL SPECIFICATION UNDER GUIDELINES OF 40 C.F.R., PART 503, STANDARDS FOR CLASS A BIOSOLIDS.
g. HAVE A HIGH CONCENTRATION OF AEROBIC COMPOSTED ORGANIC MATTER AS DETERMINED BY ASTM D-5288 AT 824 F.

Revision No.	Date	Description

These plans have been reviewed and approved by a Chesapeake Field Representative.

Signature: _____
Printed Name: _____
Date: _____



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JOE D. BUCHANAN 2570
NAME R.L.A. NO.
DATE 03-30-2011

Project No.: 26724 / DR274
Issued: 03-30-2011
Drawn By: SMW
Checked By: LLH
Scale: AS NOTED
Sheet Title
LANDSCAPE DETAILS
L1.02
Sheet Number

Designer

DP/INH

Date

April 1, 2011

Scale

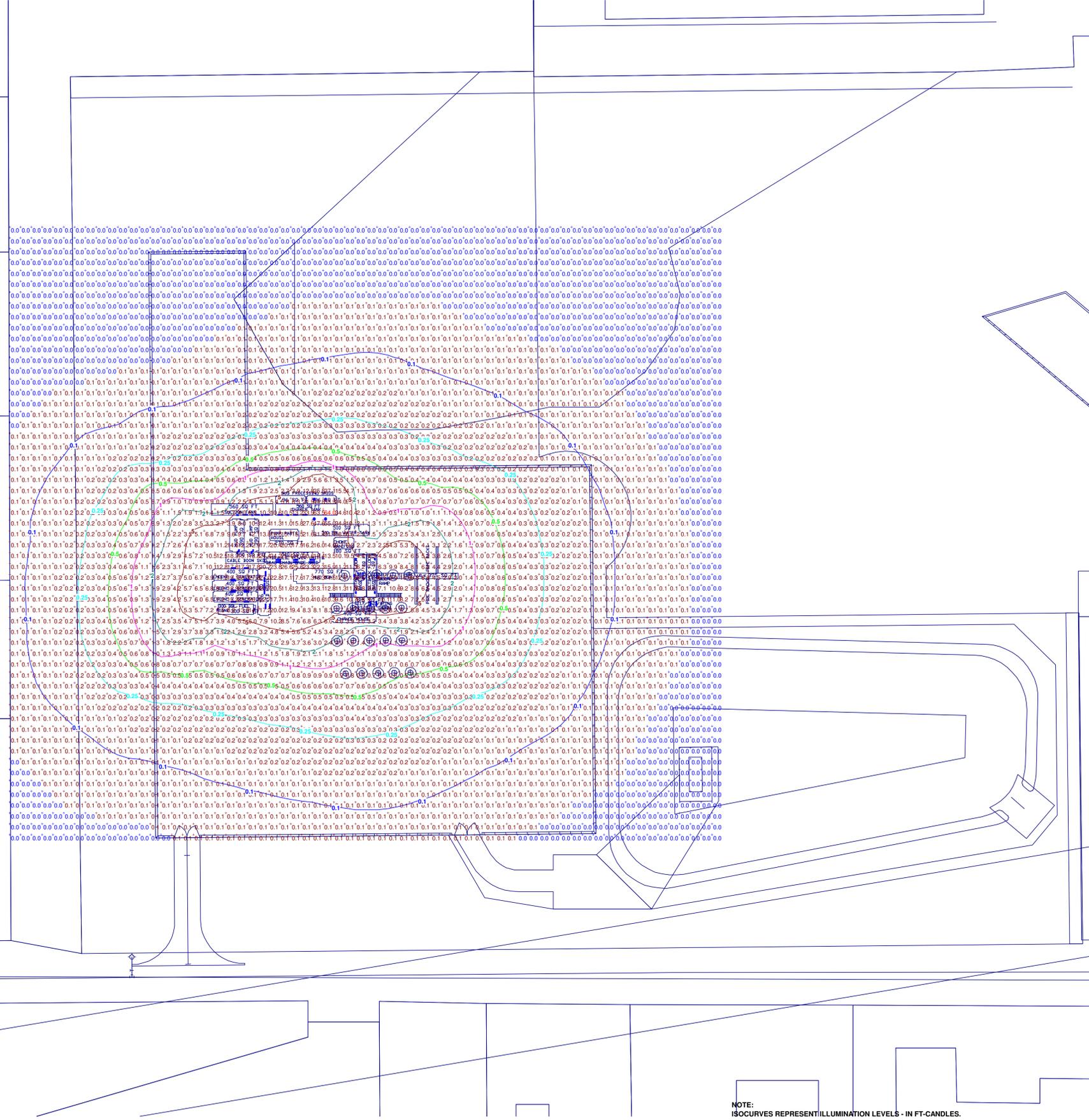
AS NOTED

Drawing No.

M1.01

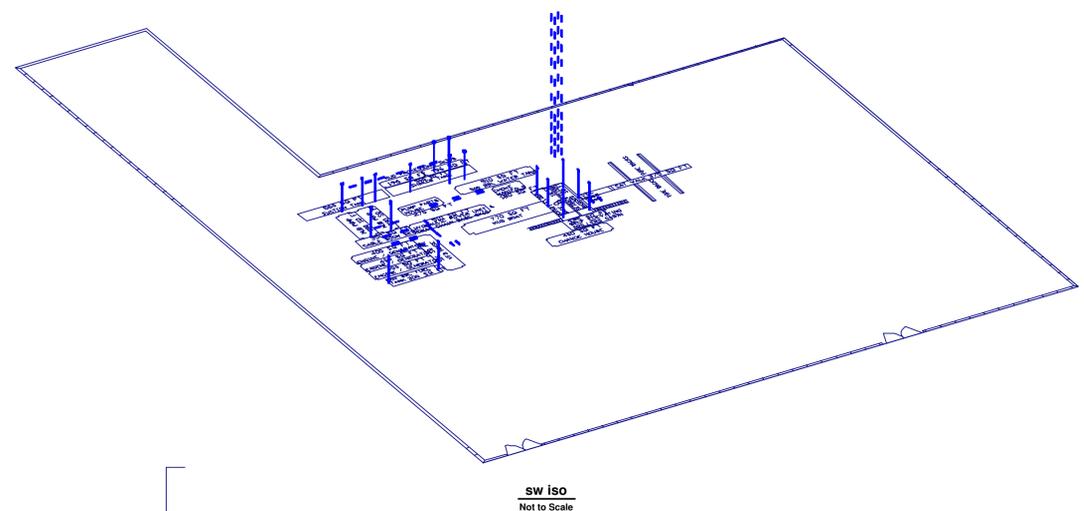
Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
—	A	144	62A8004GC	C1D2 2-60W T12 HO		62A8004GC_2 478.IES	3500	0.75	102
●	B	0	CATALOG NO. CMBH400-MT	CODEMASTER 2 w/ CGL- 400 GLOBE	400W MH #351 - 36000 LUMENS PHILIPS MH400/U - CLEAR ED37 LAMP AT 400W & 132.5V & 3.34A	CH40G.ies	36000	0.72	400
●	C	8	CHP40HB	CODEMASTER 2 W/CMR- 4HB ALUMINUM HIGHBAY REFLECTOR	400W MH	CH40HB.ies	34000	0.72	460
■	D	32	GAM77H-VOLTAGE	AREAMASTER 250/400	VENTURE 400 WATT METAL HALIDE MH400/U/ED28 INITIAL LUMENS 36000	GAM7H.IES	36000	0.72	400

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #4	+	1.1 fc	64.0 fc	0.0 fc	N / A	N / A

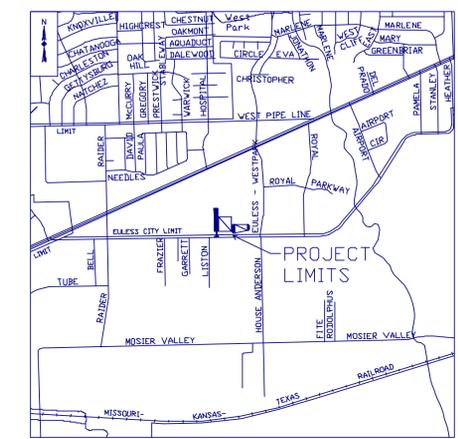


plan
 Scale 1" = 50'

NOTE:
 ISOCURVES REPRESENT ILLUMINATION LEVELS - IN FT-CANDLES.



SW ISO
 Not to Scale



LOCATION MAP
 N.T.S.

CHESAPEAKE OPERATING, INC.
 MATSON 1H - 3H, ST. JOHN 1H - 3H, & PSHL 1H - 15H
 3.594 ACRE PAD SITE
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PHILLIP R. APPLEBAUM 68404
 NAME P.E. NO.
 DATE 04/01/2011
 TBPE FIRM #F-312

