NOTICE OF
PLANNING COMMISSION MEETING
AND PUBLIC HEARING
Tuesday, August 18, 2015 7:00 p.m.
Community Recreation Center, 10640 N Clubhouse Drive

Notice is hereby given that the Planning Commission of the City of Cedar Hills, Utah, will hold a **Planning Commission Meeting on Tuesday, August 18, 2015 beginning at 7:00 p.m.** at the Community Recreation Center, 10640 N Clubhouse Drive, Cedar Hills, Utah. This is a public meeting and anyone is invited to attend.

PLANNING COMMISSION MEETING

1. Call to Order

2. Public Comment: Time has been set aside for the public to express their ideas, concerns, and comments (comments limited to 3 minutes per person with a total of 30 minutes for this item)

PUBLIC HEARING

- Preliminary Plans for Rosegate at Cedar Hills Development, located at approximately 4600 West and Cedar Hills Drive in the SC-1 Commercial Zone

SCHEDULED ITEMS

3. Review/Recommendation on Preliminary Plans for Rosegate at Cedar Hills Development, located at approximately 4600 West and Cedar Hills Drive in the SC-1 Commercial Zone
4. Approval of the Minutes from the June 30, 2015 Special Planning Commission Meeting
5. Discussion on Conceptual Plans to Subdivide Fred Levine's property, located at 3939 W 4000 N in the PR 22 Planned Residential Zone
6. Discussion on Scheduling a Special Meeting to Review the Commercial Guidelines

ADJOURNMENT

7. Adjourn

Posted this 14th day of August, 2015 /s/ Colleen A. Mulvey, City Recorder

- Supporting documentation for this agenda is posted on the City's Website at www.cedarhills.org.
- In accordance with the Americans with Disabilities Act, the City of Cedar Hills will make reasonable accommodations to participate in the meeting. Requests for assistance can be made by contacting the City Recorder at 801-785-9668 at least 48 hours in advance of the meeting to be held.
- The order of agenda items may change to accommodate the needs of the Planning Commission, the staff, and the public.
- This meeting may be held electronically via telephone to permit one or more of the commission members to participate.

CITY OF CEDAR HILLS

TO:	Planning Commission
FROM:	Chandler Goodwin, Assistant City Manager
DATE:	8/18/2015

Planning Commission
Agenda Item

SUBJECT:	Review/Recommendation on Preliminary Plans for the Rosegate Facility
APPLICANT PRESENTATION:	Doug Young, Cory Shupe, Blu Line Designs
STAFF PRESENTATION:	Chandler Goodwin, Assistant City Manager

BACKGROUND AND FINDINGS:

The preliminary plans for the Rosegate facility have been submitted to the City Planning Commission for review and recommendation to the City Council. The packet submission includes subdivision designs, engineering, various analysis and studies. Staff has made an initial review of the plans for zoning compliance and to find any engineering issues that may need to be addressed. Staff will present any findings to the Planning Commission for discussion. The building remains in the Mixed-Use Office/Retail Zone, without crossing over into the Neighborhood Retail Zone. Based on the recommendation made by the Planning Commission to the City Council, the recommendation included opening up the courtyard to be made more open to the public, reducing the size of the south elevation, and adding more retail to the site (See motion below).

PREVIOUS LEGISLATIVE ACTION:

MOTION: C. Jeff Dodge—To recommend to the City Council a finding of fact for the proposed congregate care facility Rosegate located at 4600 West and Cedar Hills Drive to allow the developer to proceed with the conceptual site plans that traverse two SC-1 subzones, namely Neighborhood Retail and the Mixed-Use Office Retail in an effort to maximize park-like open space visible and accessible to the public, and reduce the scale of the building along the southern property line adjacent to single family homes, thereby meeting the intent of the SC-1 zone, and the Design Guidelines for Commercial Development, subject to a 1-to-1 area trade between Mixed-Use Office Retail and Neighborhood Retail in order to improve commercial opportunities along the west side of the site along the proposed north-south corridor located at approximately 4700 West.

FISCAL IMPACT:

N/A

SUPPORTING DOCUMENTS:

Preliminary plans, traffic, lighting, storm drain studies, elevations, and site plans

RECOMMENDATION:

Provide input to the developer on any recommendations, address concerns, and make the necessary recommendation to the City Council

MOTION:

To recommend/not recommend to the City Council the site plan, engineering plans, architectural elevations, drainage plans, lighting plans, traffic study, and all other engineering and drawings related to the proposed Rosegate Congregate Care facility located at 4600 W Cedar Hills Dr. submitted to the Planning Commission to the City Council, including adopting the previous determination by the City Council made on Dec. 2 2014 that the "Congregate Care" use of the facility as explained by the applicant is substantially similar to the "Assisted Living" use allowed in the Mixed-Use Office Retail Zone for the subject property.

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

Know what's below. Call before you dig.

ROSEGATE AT CEDAR HILLS

4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS , UTAH

ENSIGN

FOR REVIEW
NOT FOR CONSTRUCTION

DATE PRINTED
June 24, 2015

INDEX OF DRAWINGS

1 OF 1	BOUNDARY & TOPOGRAPHIC SURVEY	C-503	DETAIL SHEET
1 OF 1	PRELIMINARY PLAT	C-504	DETAIL SHEET
C-001	GENERAL NOTES	C-505	DETAIL SHEET
C-100	SITE DIMENSION PLAN	PP-1	4700 WEST STREET PLAN & PROFILE
C-200	GRADING AND DRAINAGE PLAN	PP-2	4700 WEST STREET PLAN & PROFILE
C-300	UTILITY PLAN	E-100	PHOTOMETRIC PLAN
C-400	EROSION CONTROL PLAN	L-100	LANDSCAPE PLAN
C-500	DETAIL SHEET	L-200	OPEN SPACE PLAN
C-501	DETAIL SHEET		
C-502	DETAIL SHEET		

ROSEGATE AT CEDAR HILLS
FOR REVIEW - AUGUST 3, 2015

NOTICE TO CONTRACTOR

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS OF THE U.S. DEPARTMENT OF LABOR AND THE STATE OF UTAH DEPARTMENT OF INDUSTRIAL RELATIONS CONSTRUCTION SAFETY ORDERS." THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTORS AND SUBCONTRACTORS COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

CONTRACTOR FURTHER AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB-SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE CIVIL ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

DEVELOPER:

CEDAR HILLS FARM LAND, LLC
6150 SOUTH REDWOOD ROAD SUITE 150
TAYLORSVILLE, UTAH 84123
DOUG YOUNG: 801.205.5500

NOTICE TO DEVELOPER/CONTRACTOR

UNAPPROVED DRAWINGS REPRESENT WORK IN PROGRESS, ARE SUBJECT TO CHANGE, AND DO NOT CONSTITUTE A FINISHED ENGINEERING PRODUCT. ANY WORK UNDERTAKEN BY DEVELOPER OR CONTRACTOR BEFORE PLANS ARE APPROVED IS UNDERTAKEN AT THE SOLE RISK OF THE DEVELOPER, INCLUDING BUT NOT LIMITED TO BIDS, ESTIMATION, FINANCING, BONDING, SITE CLEARING, GRADING, INFRASTRUCTURE CONSTRUCTION, ETC.

UTILITY DISCLAIMER

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND / OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

VICINITY MAP

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO CEDAR HILLS CITY STANDARDS & SPECIFICATIONS.
2. CALL BLUE STAKES AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.
3. BENCHMARK ELEVATION = NORTHWEST CORNER SECTION 6, TOWNSHIP 5 SOUTH, RANGE 2 EAST, SALT LAKE BASE & MERIDIAN. ELEV. = 4904.33

ENGINEER:

No. 169378
ROBERT Q. ELDER
8-3-15
STATE OF UTAH

ENSIGN
THE STANDARD IN ENGINEERING

SALT LAKE CITY
45 W. 10000 S., Suite 500
Sandy, UT. 84070
Phone: 801.255.0529
Fax: 801.255.4449
WWW.ENSIGNENG.COM

LAYTON
Phone: 801.547.1100

TOOELE
Phone: 435.843.3590

CEDAR CITY
Phone: 435.867.1453

RICHFIELD
Phone: 435.896.9497

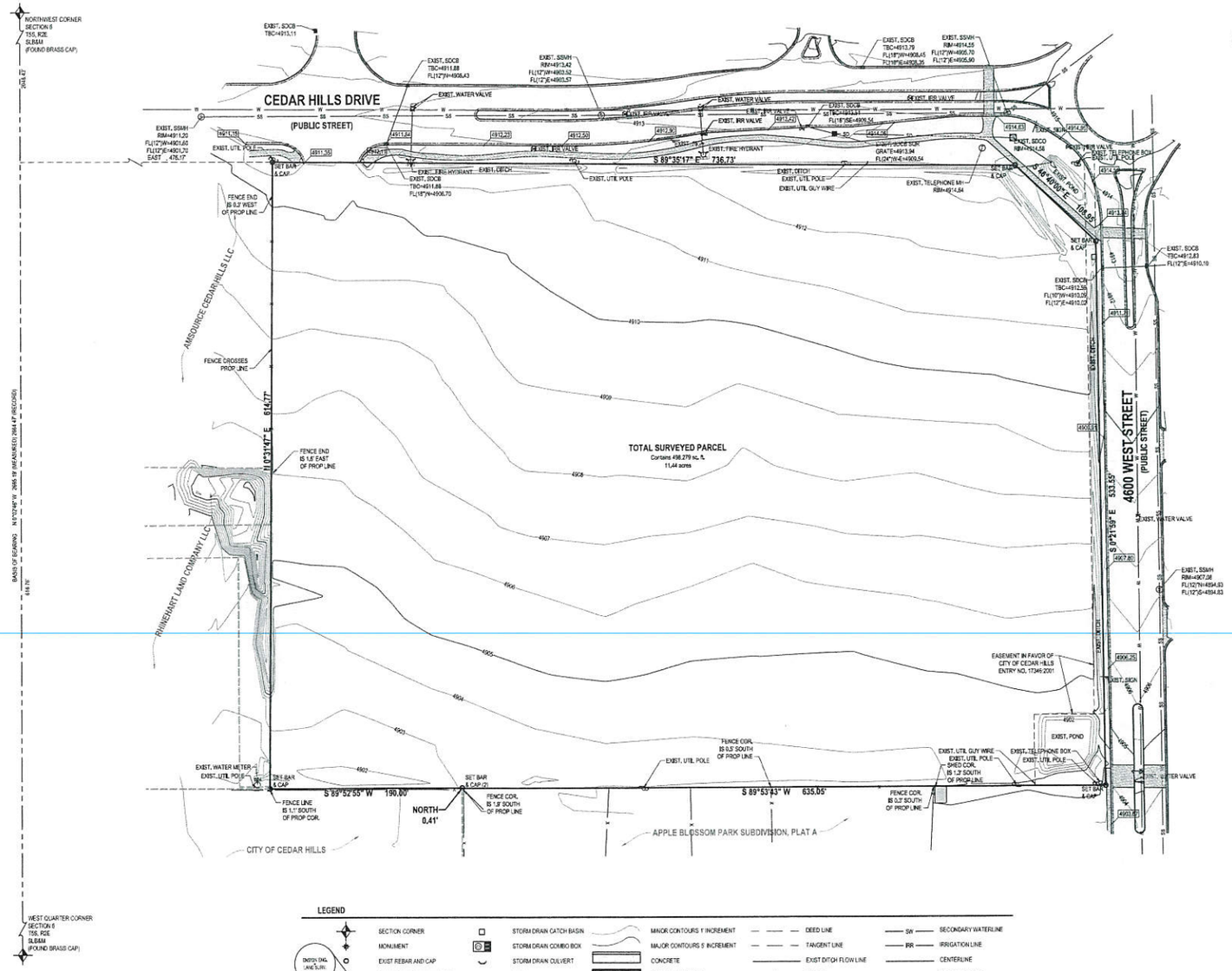
COLORADO SPRINGS
Phone: 719.473.1176

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION

BENCHMARK

NORTHWEST CORNER OF SECTION 6 TOWNSHIP 5 SOUTH, RANGE 2 EAST SALT LAKE BASE & MERIDIAN

ELEVATION = 4901.33'



SURVEYOR'S NARRATIVE

I, Patrick M. Harris, do hereby state that I am a Registered Professional Land Surveyor and that I hold certificate no. 286082 as prescribed by the laws of the State of Utah and represent that I have made a survey of the following described property. The Purpose of this survey is to provide a Boundary survey to our client. The Basis of Bearing is the line between the West Quarter Corner and the Northwest Corner of Section 6, Township 5 South, Range 2 East, Salt Lake Base and Meridian and running North 00°02'40" West 2668.19 feet.

PROPERTY DESCRIPTION

Beginning at a point on the south line of Cedar Hills Drive said point being North 00°02'40" West 616.76 feet along the section line and East 476.17 feet from the West Quarter Corner of Section 6, Township 5 South, Range 2 East, Salt Lake Base and Meridian and running:

thence South 89°35'17" East 736.73 feet along said south line of Cedar Hills Drive;
thence South 40°40'00" East 108.95 feet to a point on the west line of 4600 West Street;
thence South 00°21'59" East 533.55 feet along said west line of 4600 West Street to the Northwest Corner of Apple Blossom Park, Plat A Subdivision;
thence South 89°52'43" West 635.05 feet along the north line to the Northwest Corner of said Apple Blossom Park, Plat A Subdivision.
thence North 0.41 feet.
thence South 89°52'55" West 190.00 feet;
thence North 00°31'47" East 614.77 feet to the point of beginning.

Contains 498,279 square feet or 11.44 acres.

Date

Patrick M. Harris
License No. 286082

VICINITY MAP
NOT TO SCALE

NORTH

HORIZONTAL GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
HORZ: 1 inch = 50 ft.

LOCATED IN THE NORTHWEST QUARTER OF SECTION 6 TOWNSHIP 5 SOUTH, RANGE 2 EAST SALT LAKE BASE AND MERIDIAN CEDAR HILLS, UTAH COUNTY, UTAH

LEGEND

SECTION CORNER	STORM DRAIN CATCH BASIN	MINOR CONTOURS 1' INCREMENT	DEED LINE	SW	SECONDARY WATERLINE
MONUMENT	STORM DRAIN COMBO BOX	MAJOR CONTOURS 5' INCREMENT	TANGENT LINE	IRR	IRRIGATION LINE
EXIST REBAR AND CAP	STORM DRAIN CULVERT	CONCRETE	EXIST DITCH FLOW LINE		CENTERLINE
SET ENSIGN REBAR AND CAP	SIGN	BUILDING PRIMARY	FENCE		PROPERTY LINE
SET RIVET	UTILITY MANHOLE	BUILDING SECONDARY	EDGE OF ASPHALT		ADJACENT PROPERTY LINE
WATER METER	UTILITY POLE	BUILDABLE AREA WITHIN SETBACKS	SANITARY SEWER	E	ELECTRIC POWERLINE
WATER MANHOLE	GAS METER	PUBLIC DRAINAGE EASEMENT	STORM DRAIN LINE	T	TELEPHONE LINE
WATER VALVE	TREE	ADJACENT RIGHT OF WAY	GAS LINE		IRRIGATION VALVE
FIRE HYDRANT	OVERHEAD POWER LINE	RIGHT OF WAY	WATER LINE		SANITARY SEWER MANHOLE
ELECTRIC METER					STORM DRAIN CLEAN OUT

ENSIGN ENG. LAND SURV.

ENSIGN
THE STANDARD IN ENGINEERING

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Phone: 435.865.1453

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FOR:
CEDAR HILLS FARM LAND, LLC
8150 SOUTH REDWOOD RD, STE. 150
TAYLORSVILLE, UTAH 84123

CONTACT:
DOUG YOUNG
PHONE: 801-205-5500

ROSEGATE AT CEDAR HILLS SENIOR LIVING FACILITY

4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

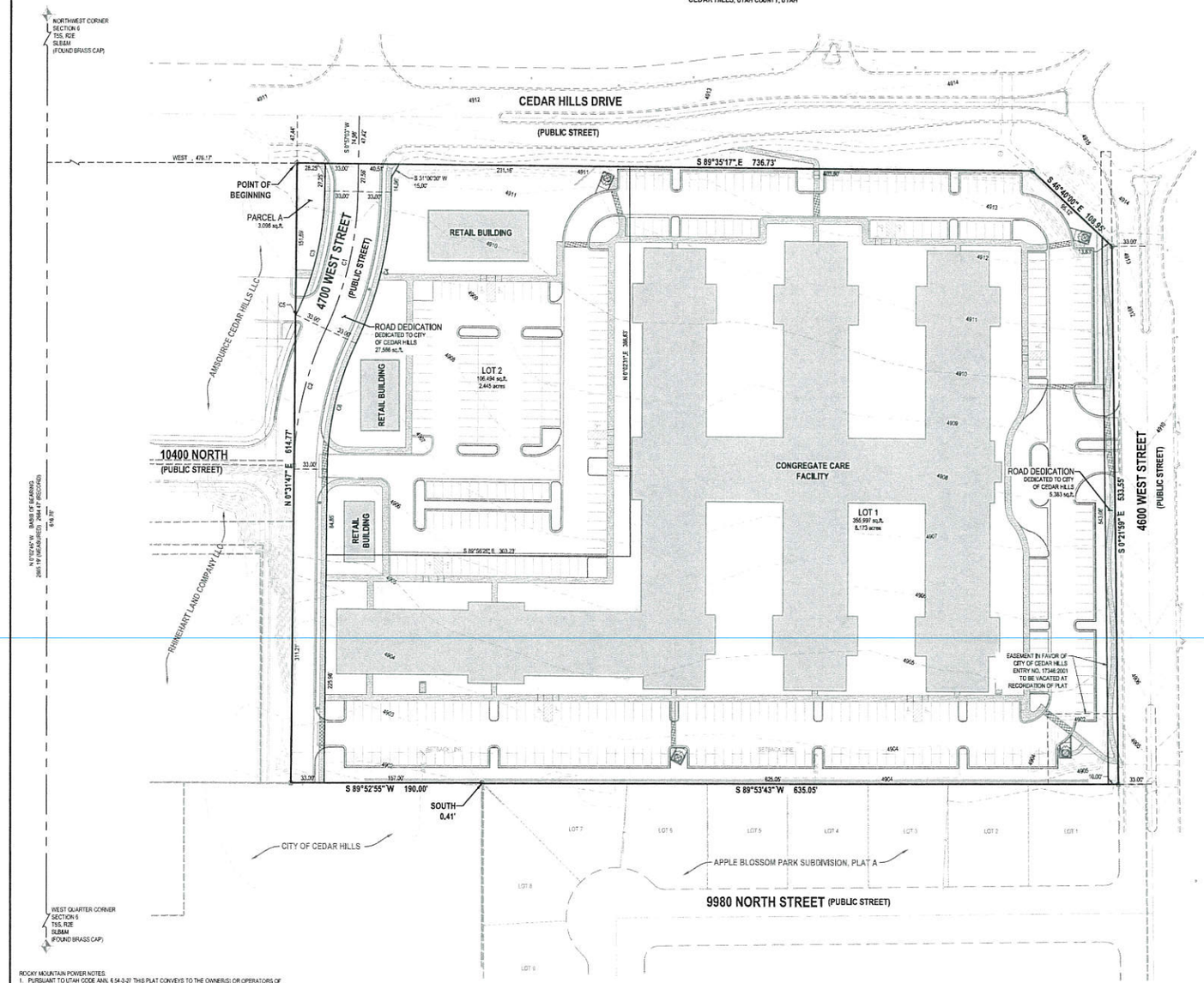
NO.	DATE	REVISION FOR REVIEW	BY
1			
2			
3			
4			
5			
6			
7			
8			

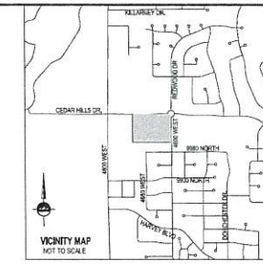
BOUNDARY & TOPOGRAPHIC SURVEY

PROJECT NUMBER: 6301
PRINT DATE: 4/15/15
DRAWN BY: B. EARNSHAW
CHECKED BY: K. WHITE
PROJECT MANAGER: R. ELDER

ROSEGATE AT CEDAR HILLS

PRELIMINARY PLAT
LOCATED IN THE NORTHWEST QUARTER OF SECTION 6,
TOWNSHIP 5 SOUTH, RANGE 2 EAST, SALT LAKE BASE AND MERIDIAN
CEDAR HILLS, UTAH COUNTY, UTAH





CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	BEARING	CHORD
C1	333.00'	141.26'	24°18'18"	N13°06'12"E	140.22'
C2	333.00'	143.71'	24°43'34"	S12°53'34"W	142.58'
C3	300.00'	127.26'	24°18'18"	N13°06'12"E	126.31'
C4	366.00'	155.26'	24°18'18"	N13°06'12"E	154.12'
C5	366.00'	1.37'	0°12'32"	S25°39'08"W	1.37'
C6	300.00'	129.47'	24°43'34"	S12°53'34"W	128.48'

LEGEND

- SECTION CORNER
- EXISTING MONUMENT
- PROPOSED STREET MONUMENT
- SET ENSIGN REBAR AND CAP
- SECTION LINE
- CENTERLINE
- PROPERTY LINE
- EASEMENT LINE

NOTES

1. LOT 1 IS LOCATED WITHIN THE SUBZONE MIXED-USE OFFICE/RETAIL OF THE SC-1 ZONE. LOT 2 IS LOCATED WITHIN THE SUBZONE NEIGHBORHOOD RETAIL OF THE SC-1 ZONE.
2. THE SUBDIVISION PROPERTY IS LOCATED WITHIN ZONE 'X' AS DESIGNATED ON THE FEMA FIRM MAP, COMMUNITY PANEL NO. 49051C0110B, WITH AN EFFECTIVE DATE OF JULY 17, 2002.

HORIZONTAL GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
HORZ: 1 inch = 50 ft.

SURVEYOR'S CERTIFICATE

I, KAREN F. WHITE do hereby certify that I am a Licensed Land Surveyor, and that I hold Certificate No. 191326 as prescribed under laws of the State of Utah. I further certify that by authority of the Owners, I have made a survey of the tract of land shown on this plat and described below, and have subdivided said tract of land into lots and streets, hereafter to be known as ROSEGATE AT CEDAR HILLS and that the same has been correctly surveyed and staked on the ground as shown on this plat. I further certify that all lots meet frontage width and area requirements of the applicable zoning ordinances.

BOUNDARY DESCRIPTION

Beginning at a point on the south line of Cedar Hills Drive said point being North 00°02'45" West 616.76 feet along the section line and West 416.17 feet from the West Quarter Corner of Section 6, Township 5 South, Range 2 East, Salt Lake Base and Meridian and running:

thence South 89°35'17" East 736.73 feet along said south line of Cedar Hills Drive;
thence South 46°40'00" East 108.95 feet along said south line of Cedar Hills Drive to a point on the west line of 4600 West Street;
thence South 00°21'59" East 533.55 feet along said west line of 4600 West Street to the Northeast Corner of Apple Blossom Park, Plat A Subdivision;
thence South 89°53'43" West 635.05 feet along the north line of said Apple Blossom Park, Plat A Subdivision;
thence North 0.41 feet;
thence South 89°52'55" West 190.00 feet;
thence North 00°31'47" East 614.77 feet to the point of beginning.

Contains 408,408 Square Feet or 11.44 Acres and 2 Lots

DATE

KAREN F. WHITE
LICENSE NO. 191326

OWNER'S DEDICATION

Known all men by these presents that I / we, the undersigned owner(s) of the above described tract of land, having caused same to be subdivided, hereafter known as the

ROSEGATE AT CEDAR HILLS

do hereby dedicate the streets, easements and other public areas as indicated hereon for the perpetual use of the public.

In witness whereof I / we have hereunto set our hand (s) this _____ day of _____ A.D., 20_____.

By:
Its:

LIMITED LIABILITY COMPANY ACKNOWLEDGMENT

STATE OF UTAH }
COUNTY OF _____ } S.S.

ON THE _____ DAY OF _____ A.D. 20_____ PERSONALLY APPEARED BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC, IN AND FOR SAID COUNTY OF _____ IN SAID STATE OF UTAH WHO AFTER BEING DULY SWORN, ACKNOWLEDGED TO ME THAT HE/SHE IS THE _____ OF _____ A LIMITED LIABILITY COMPANY AND THAT _____ SIGNED THE OWNER'S DEDICATION FREELY AND VOLUNTARILY FOR AND IN BEHALF OF SAID LIMITED LIABILITY COMPANY FOR THE PURPOSES THEREIN MENTIONED AND ACKNOWLEDGED TO ME THAT SAID LIMITED LIABILITY COMPANY EXECUTED THE SAME.

MY COMMISSION EXPIRES: _____
NAME: _____
NO. _____
A NOTARY PUBLIC COMMISSION IN UTAH

NOTARY PUBLIC
RESIDING IN _____ COUNTY

CORPORATE ACKNOWLEDGMENT

STATE OF _____ }
COUNTY OF _____ } S.S.

ON THE _____ DAY OF _____ A.D. 20_____ PERSONALLY APPEARED BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC, IN AND FOR SAID COUNTY OF _____ IN SAID STATE OF _____ WHO BEING DULY SWORN, DID SAY TO ME THAT ____ IS THE _____ OF _____ AND THAT THE FOREGOING INSTRUMENT WAS SIGNED IN BEHALF OF SAID CORPORATION BY AUTHORITY OF ITS ORGANIZATIONAL DOCUMENTS. AND SAID _____ DULY ACKNOWLEDGED TO ME THAT SAID CORPORATION EXECUTED THE SAME.

MY COMMISSION EXPIRES: _____
NAME: _____
NO. _____
A NOTARY PUBLIC COMMISSION IN UTAH

NOTARY PUBLIC
RESIDING IN _____ COUNTY

ACCEPTANCE BY LEGISLATIVE BODY

THE CITY COUNCIL OF UTAH COUNTY OF UTAH APPROVES THIS SUBDIVISION SUBJECT TO THE CONDITIONS AND RESTRICTIONS HEREON, AND HEREBY ACCEPTS THE DEDICATION OF ALL STREETS, EASEMENTS AND OTHER PARCELS OF LAND INTENDED FOR PUBLIC PURPOSES FOR THE PERPETUAL USE OF THE PUBLIC.

THIS _____ DAY OF _____ A.D. 20_____.

MAYOR

ATTEST:
CLERK/RECORDER
(SEE SEAL BELOW)

ROSEGATE AT CEDAR HILLS

LOCATED IN THE NORTHWEST QUARTER OF SECTION 6,
TOWNSHIP 5 SOUTH, RANGE 2 EAST, SALT LAKE BASE AND MERIDIAN
CEDAR HILLS, UTAH COUNTY, UTAH

ROCKY MOUNTAIN POWER NOTES:

1. PURSUANT TO UTAH CODE ANN. § 54-3-27 THIS PLAT CONVEYS TO THE OWNER(S) OR OPERATORS OF UTILITY FACILITIES A PUBLIC UTILITY EASEMENT ALONG WITH ALL THE RIGHTS AND DUTIES DESCRIBED THEREIN.
2. PURSUANT TO UTAH CODE ANN. § 17-27A-603(4)(C)(ii) ROCKY MOUNTAIN POWER ACCEPTS DELIVERY OF THE PUE AS DESCRIBED IN THIS PLAT AND APPROVES THIS PLAT SOLELY FOR THE PURPOSE OF CONFIRMING THAT THE PLAT CONTAINS PUBLIC UTILITY EASEMENTS AND APPROXIMATES THE LOCATION OF THE PUBLIC UTILITY EASEMENTS, BUT DOES NOT WARRANT THEIR PRECISE LOCATION. ROCKY MOUNTAIN POWER MAY REQUIRE OTHER EASEMENTS IN ORDER TO SERVE THIS DEVELOPMENT. THIS APPROVAL DOES NOT AFFECT ANY RIGHT THAT ROCKY MOUNTAIN POWER HAS UNDER:
   2.1. A RECORDED EASEMENT OR RIGHT-OF-WAY
   2.2. THE LAW APPLICABLE TO PRESCRIPTIVE RIGHTS
   2.3. TITLE 54, CHAPTER 8A, DAMAGE TO UNDERGROUND UTILITY FACILITIES OR
   2.4. ANY OTHER PROVISION OF LAW.

QUESTAR UTILITY NOTE: QUESTAR APPROVES THIS PLAT SOLELY FOR THE PURPOSE OF CONFIRMING THAT THE PLAT CONTAINS PUBLIC UTILITY EASEMENTS. QUESTAR MAY REQUIRE OTHER EASEMENTS IN ORDER TO SERVE THIS DEVELOPMENT. THIS APPROVAL DOES NOT CONSTITUTE ABROGATION OR WAIVER OF ANY OTHER EXISTING RIGHTS, OBLIGATIONS OR LIABILITIES PROVIDED BY LAW OR EQUITY. THIS APPROVAL DOES NOT CONSTITUTE ACCEPTANCE, APPROVAL OR ACKNOWLEDGMENT OF ANY TERMS CONTAINED IN THE PLAT, INCLUDING THOSE SET IN THE OWNERS DEDICATION AND THE NOTES AND DOES NOT CONSTITUTE A GUARANTEE OF PARTICULAR TERMS OF NATURAL GAS SERVICE. FOR FURTHER INFORMATION PLEASE CONTACT QUESTAR'S RIGHT-OF-WAY DEPARTMENT AT 1-800-366-8532.

OWNER
CEDAR HILLS FARM LAND, LLC
6150 S. REDWOOD ROAD SUITE 150
TAYLORSVILLE, UTAH 84123
801.205.5500

ENSIGN
SALT LAKE CITY
45 W. 10000 S., Suite 500
Sandy, UT. 84070
Phone: 801.255.0529
Fax: 801.255.4449
WWW.ENSIGNENG.COM
LAYTON
TOOELE
CEDAR CITY
RICHFIELD
COLORADO SPRINGS

SHEET 1 OF 1
PROJECT NUMBER : 6001
MANAGER : RCW
DRAWN BY : KFW
CHECKED BY : PMH
DATE : 8/4/15

CEDAR HILLS ENGINEER APPROVAL

I HEREBY CERTIFY THAT THIS OFFICE HAS EXAMINED THIS PLAT AND IT IS CORRECT IN ACCORDANCE WITH INFORMATION ON FILE IN THIS OFFICE.

DATE CITY ENGINEER

PLANNING COMMISSION APPROVAL

APPROVED THIS _____ DAY OF _____ A.D. _____ BY THE CEDAR HILLS PLANNING COMMISSION.

CHAIRMAN, PLANNING COMMISSION

SURVEYOR'S SEAL	NOTARY PUBLIC SEAL	CITY ENGINEER'S SEAL	CLERK-RECORDER SEAL

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

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION

BENCHMARK

NORTHWEST CORNER OF SECTION 5
TOWNSHIP 5 SOUTH, RANGE 2 EAST
SALT LAKE BASE & MERIDIAN

ELEVATION = 4901.32'

GENERAL NOTES

1. ALL CONSTRUCTION MUST STRICTLY FOLLOW THE STANDARDS AND SPECIFICATIONS SET FORTH BY: THE DESIGN ENGINEER, LOCAL AGENCY JURISDICTION, APWA (2012 EDITION), AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.). THE ORDER LISTED ABOVE IS ARRANGED BY SENIORITY. THE LATEST EDITION OF ALL STANDARDS AND SPECIFICATIONS MUST BE ADHERED TO. IF A CONSTRUCTION PRACTICE IS NOT SPECIFIED BY ANY OF THE LISTED SOURCES, CONTRACTOR MUST CONTACT DESIGN ENGINEER FOR DIRECTION.
2. CONTRACTOR TO STRICTLY FOLLOW THE MOST CURRENT COPY OF THE SOILS REPORT FOR THIS PROJECT. ALL GRADING INCLUDING BUT NOT LIMITED TO CUT, FILL, COMPACTION, ASPHALT SECTION, SUBBASE, TRENCH EXCAVATION/BACKFILL, SITE GRUBBING, AND FOOTINGS MUST BE COORDINATED DIRECTLY WITH SOILS REPORT.
3. CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING, AND BRING UP ANY QUESTIONS BEFORE SUBMITTING BID.
4. CONTRACTOR SHALL PROVIDE A CONSTRUCTION SCHEDULE IN ACCORDANCE WITH THE CITY, STATE, OR COUNTY REGULATIONS FOR WORKING IN THE PUBLIC WAY.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL ACCORDING TO GOVERNING AGENCY STANDARDS. WET DOWN DRY MATERIALS AND RUBBISH TO PREVENT BLOWING.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ADJACENT SURFACE IMPROVEMENTS.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY SETTLEMENT OF OR DAMAGE TO EXISTING UTILITIES.
8. THE CONTRACTOR IS RESPONSIBLE TO FURNISH ALL MATERIALS TO COMPLETE THE PROJECT.
9. UNLESS OTHERWISE NOTED, ALL ON-GRADE CONCRETE WILL BE PLACED ON A MINIMUM 4" GRAVEL BASE OVER A WELL COMPACTED (95% DENSITY PER ASTM D-1557) SUB GRADE.
10. ALL EXPOSED SURFACES WILL HAVE A TEXTURED FINISH, RUBBED, OR BROOMED. ANY "PLASTERING" OF NEW CONCRETE WILL BE DONE WHILE IT IS STILL "GREEN".
11. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
12. THE LOCATIONS OF UNDERGROUND FACILITIES SHOWN ON THESE PLANS ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO PROCEEDING WITH CONSTRUCTION. NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY HIS WORK FORCE. CONTRACTOR SHALL START INSTALLATION AT LOW POINT OF ALL NEW GRAVITY UTILITY LINES.
13. ALL DIMENSIONS, GRADES, AND UTILITY DESIGN SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXIST, PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO THE DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS, IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
14. NO CHANGE IN DESIGN LOCATION OR GRADE WILL BE MADE BY THE CONTRACTOR WITHOUT THE WRITTEN APPROVAL OF THE PROJECT ENGINEER.
15. NATURAL VEGETATION AND SOIL COVER SHALL NOT BE DISTURBED PRIOR TO ACTUAL CONSTRUCTION OF A REQUIRED FACILITY OR IMPROVEMENT. MASS CLEARING OF THE SITE IN ANTICIPATION OF CONSTRUCTION SHALL BE AVOIDED.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, MAINTAINING, OR RESTORING ALL MONUMENTS AND MONUMENT REFERENCE MARKS WITHIN THE PROJECT SITE. CONTACT THE CITY OR COUNTY SURVEYOR FOR MONUMENT LOCATIONS AND CONSTRUCTION DETAILS.
17. CONTRACTOR TO LAYOUT AND POTHOLE FOR ALL POTENTIAL CONFLICTS WITH UTILITY LINES ON- OR OFF-SITE AS REQUIRED PRIOR TO ANY CONSTRUCTION, AND THE CONTRACTOR WILL VERIFY DEPTHS OF UTILITIES IN THE FIELD BY POTHOLING A MINIMUM OF 300 FEET AHEAD OF PIPELINE CONSTRUCTION TO AVOID CONFLICTS WITH DESIGNED PIPELINE GRADE AND ALIGNMENT. IF A CONFLICT ARISES RESULTING FROM THE CONTRACTOR'S NEGLIGENCE TO POTHOLE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO RESOLVE THE CONFLICT WITHOUT ADDITIONAL COST OR CLAIM TO THE OWNER OR ENGINEER.
18. ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO OWNER.
19. CONSULT ALL OF THE DRAWINGS AND SPECIFICATIONS FOR COORDINATION REQUIREMENTS BEFORE COMMENCING CONSTRUCTION.
20. AT ALL LOCATIONS WHERE EXISTING PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE.
21. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MOST RECENT, ADOPTED EDITION OF ADA ACCESSIBILITY GUIDELINES.
22. CONTRACTOR SHALL, AT THE TIME OF BIDDING AND THROUGHOUT THE PERIOD OF THE CONTRACT, BE LICENSED IN THE STATE OF UTAH AND SHALL BE BONDABLE FOR AN AMOUNT REQUIRED BY THE OWNER.
23. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL WATER, POWER, SANITARY FACILITIES AND TELEPHONE SERVICES AS REQUIRED FOR THE CONTRACTOR'S USE DURING CONSTRUCTION.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL RE-TESTING AND/OR RE-INSPECTION SHALL BE PAID FOR BY THE CONTRACTOR.
25. IF EXISTING IMPROVEMENTS NEED TO BE DISTURBED AND/OR REMOVED FOR THE PROPER PLACEMENT OF IMPROVEMENTS TO BE CONSTRUCTED BY THESE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. COST OF REPLACING OR REPAIRING EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS REQUIRING REMOVAL AND/OR REPLACEMENT. THERE WILL BE NO EXTRA COST DUE TO THE CONTRACTOR FOR REPLACING OR REPAIRING EXISTING IMPROVEMENTS.
26. WHENEVER EXISTING FACILITIES ARE REMOVED, DAMAGED, BROKEN, OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE PLANS OR SPECIFICATIONS, SAID FACILITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE WITH MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL EXISTING FACILITIES. THE FINISHED PRODUCT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER, THE ENGINEER, AND THE RESPECTIVE REGULATORY AGENCY.
27. CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL-SIZE RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL STRUCTURES AND OTHER FACILITIES. RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR. PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER ONE SET OF NEATLY MARKED RECORD DRAWINGS SHOWING THE INFORMATION REQUIRED ABOVE. RECORD DRAWINGS SHALL BE REVIEWED AND THE COMPLETE RECORD DRAWING SET SHALL BE CURRENT WITH ALL CHANGES AND DEVIATIONS REDLINED AS A PRECONDITION TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL ACCEPTANCE.
28. WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED.
29. ALL EXISTING GATES AND FENCES TO REMAIN UNLESS OTHERWISE NOTED ON PLANS. PROTECT ALL GATES AND FENCES FROM DAMAGE.
30. ALL EXISTING TREES ARE TO REMAIN UNLESS OTHERWISE NOTED ON PLANS. PROTECT ALL TREES FROM DAMAGE.
31. ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN THE CITY RIGHT-OF-WAY.
32. CONTRACTORS ARE RESPONSIBLE FOR ALL OSHA REQUIREMENTS ON THE PROJECT SITE.
33. A UPDES (UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM) PERMIT IS REQUIRED FOR ALL CONSTRUCTION ACTIVITIES 1 ACRE OR MORE AS WELL AS A STORM WATER POLLUTION PREVENTION PLAN.

UTILITY NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS, CITY AND STATE REQUIREMENTS AND THE MOST RECENT EDITIONS OF THE FOLLOWING: THE INTERNATIONAL PLUMBING CODE, UTAH DRINKING WATER REGULATIONS, APWA MANUAL OF STANDARD PLANS AND SPECIFICATIONS. THE CONTRACTOR IS REQUIRED TO ADHERE TO ALL OF THE ABOVE-MENTIONED DOCUMENTS UNLESS OTHERWISE NOTED AND APPROVED BY THE ENGINEER.
2. CONTRACTOR SHALL COORDINATE LOCATION OF NEW "DRY UTILITIES" WITH THE APPROPRIATE UTILITY COMPANY, INCLUDING BUT NOT LIMITED TO: TELEPHONE & INTERNET SERVICE, GAS SERVICE, CABLE, AND POWER.
3. EXISTING UTILITIES HAVE BEEN SHOWN ON THE PLANS BASED ON ON-SITE SURVEY. PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE, IN THE FIELD, THEIR MAIN AND SERVICE LINES. THE CONTRACTOR SHALL NOTIFY BLUE STAKES AT 1-800-662-4111 48 HOURS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK. THE CONTRACTOR SHALL RECORD THE BLUE STAKES ORDER NUMBER AND FURNISH ORDER NUMBER TO OWNER AND ENGINEER PRIOR TO ANY EXCAVATION. IT WILL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DIRECTLY CONTACT ANY OTHER UTILITY COMPANIES THAT ARE NOT MEMBERS OF BLUE STAKES. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF THIS CONTRACT. ANY REPAIRS NECESSARY TO DAMAGED UTILITIES SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICE TO THE PROJECT.
4. CARE SHOULD BE TAKEN IN ALL EXCAVATIONS DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES. EXCAVATION REQUIRED WITHIN PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT CONTRACTOR'S EXPENSE.
5. TRENCH BACKFILL MATERIAL AND COMPACTION TESTS ARE TO BE TAKEN PER APWA STANDARD SPECIFICATIONS (2012 EDITION), SECTION 02320 - BACKFILLING TRENCHES, OR AS REQUIRED BY THE GEOTECHNICAL REPORT IF NATIVE MATERIALS ARE USED. NO NATIVE MATERIALS ARE ALLOWED IN THE PIPE ZONE. THE MAXIMUM LIFT FOR BACKFILLING EXCAVATIONS IS 8-INCHES.
6. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFORMING TO LOCAL AND FEDERAL CODES GOVERNING SHORING AND BRACING OF EXCAVATIONS AND TRENCHES AND FOR THE PROTECTION OF WORKERS.
7. THE CONTRACTOR IS REQUIRED TO KEEP ALL CONSTRUCTION ACTIVITIES WITHIN THE APPROVED PROJECT LIMITS. THIS INCLUDES, BUT IS NOT LIMITED TO VEHICLE AND EQUIPMENT STAGING, MATERIAL STORAGE AND LIMITS OF TRENCH EXCAVATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN PERMISSION AND/OR EASEMENTS FROM THE APPROPRIATE GOVERNING ENTITY AND/OR INDIVIDUAL PROPERTY OWNER(S) FOR WORK OR STAGING OUTSIDE OF THE PROJECT LIMITS.
8. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE, CAUSED BY ANY CONDITION INCLUDING SETTLEMENT, TO EXISTING UTILITIES FROM WORK PERFORMED AT OR NEAR EXISTING UTILITIES. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO PROTECT ALL EXISTING PUBLIC AND PRIVATE ROADWAY AND UTILITY FACILITIES. DAMAGE TO EXISTING FACILITIES CAUSED BY THE CONTRACTOR MUST BE REPAIRED BY THE CONTRACTOR AT HIS/HER EXPENSE TO THE SATISFACTION OF THE OWNER OF SAID FACILITIES.
9. ALL WATER LINE AND SEWER LINE INSTALLATION AND TESTING TO BE IN ACCORDANCE WITH LOCAL GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
10. ALL MANHOLES, HYDRANTS, VALVES, CLEANOUT BOXES, CATCH BASINS, METERS, ETC. MUST BE RAISED OR LOWERED TO FINAL GRADE PER APWA (2012 EDITION) STANDARDS AND INSPECTOR REQUIREMENTS. CONCRETE COLLARS MUST BE CONSTRUCTED ON ALL MANHOLES, CLEANOUT BOXES, CATCH BASINS, AND VALVES PER APWA STANDARDS. ALL MANHOLE, CATCH BASIN, OR CLEANOUT BOX CONNECTIONS MUST BE MADE WITH THE PIPE CUT FLUSH WITH THE INSIDE OF THE BOX AND GROUTED OR SEALED.
11. CONTRACTOR SHALL NOT ALLOW ANY GROUNDWATER OR DEBRIS TO ENTER THE NEW OR EXISTING PIPE DURING CONSTRUCTION.
12. SILT AND DEBRIS ARE TO BE CLEANED OUT OF ALL STORM DRAIN BOXES. CATCH BASINS ARE TO BE MAINTAINED IN A CLEANED CONDITION AS NEEDED UNTIL AFTER THE FINAL BOND RELEASE INSPECTION.
13. CONTRACTOR SHALL CLEAN ASPHALT, TAR OR OTHER ADHESIVES OFF OF ALL MANHOLE LIDS AND INLET GRATES TO ALLOW ACCESS.
14. EACH TRENCH SHALL BE EXCAVATED SO THAT THE PIPE CAN BE LAID TO THE ALIGNMENT AND GRADE AS REQUIRED. THE TRENCH WALL SHALL BE SO BRACED THAT THE WORKMEN MAY WORK SAFELY AND EFFICIENTLY. ALL TRENCHES SHALL BE DRAINED SO THE PIPE LAYING MAY TAKE PLACE IN DEWATERED CONDITIONS.
15. CONTRACTOR SHALL PROVIDE AND MAINTAIN AT ALL TIMES AMPLE MEANS AND DEVICES WITH WHICH TO REMOVE PROMPTLY AND TO PROPERLY DISPOSE OF ALL WATER ENTERING THE TRENCH EXCAVATION.
16. ALL SEWER LINES AND SEWER SERVICES SHALL HAVE A MINIMUM SEPARATION OF 10 FEET, CENTER TO CENTER, FROM THE WATER LINES. IF A 10 FOOT SEPARATION CAN NOT BE MAINTAINED, THE SEWER LINE AND WATER LINE SHALL BE LAID IN SEPARATE TRENCHES AND THERE SHALL BE A MINIMUM 18" VERTICAL SEPARATION BETWEEN THE PIPES.
17. CONTRACTOR SHALL INSTALL THRUST BLOCKING AT ALL WATERLINE ANGLE POINTS AND TEES.
18. ALL UNDERGROUND UTILITIES SHALL BE IN PLACE PRIOR TO INSTALLATION OF CURB, GUTTER, SIDEWALK AND STREET PAVING.
19. CONTRACTOR SHALL INSTALL MAGNETIC LOCATING TAPE CONTINUOUSLY OVER ALL NONMETALLIC PIPE.

TRAFFIC CONTROL AND SAFETY NOTES

1. TRAFFIC CONTROL AND STRIPING TO CONFORM TO THE CURRENT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
2. BARRICADING AND DETOURING SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE CURRENT M.U.T.C.D.
3. NO STREET SHALL BE CLOSED TO TRAFFIC WITHOUT WRITTEN PERMISSION FROM THE APPROPRIATE AGENCY, EXCEPT WHEN DIRECTED BY LAW ENFORCEMENT OR FIRE OFFICIALS.
4. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROVIDE FOR SMOOTH TRAFFIC FLOW AND SAFETY. ACCESS SHALL BE MAINTAINED FOR ALL PROPERTIES ADJACENT TO THE WORK.
5. DETOURING OPERATIONS FOR A PERIOD OF SIX CONSECUTIVE CALENDAR DAYS, OR MORE, REQUIRE THE INSTALLATION OF TEMPORARY STREET STRIPING AND REMOVAL OF INTERFERING STRIPING BY SANDBLASTING. THE DETOURING STRIPING PLAN OR CONSTRUCTION TRAFFIC CONTROL PLAN MUST BE SUBMITTED TO THE CITY TRAFFIC ENGINEER FOR REVIEW AND APPROVAL.
6. ALL TRAFFIC CONTROL DEVICES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE END OF THE WORK TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.
7. TRAFFIC CONTROL DEVICES (TCDs) SHALL REMAIN VISIBLE AND OPERATIONAL AT ALL TIMES.
8. ALL PERMANENT TRAFFIC CONTROL DEVICES CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HEREUNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.
9. THE CONTRACTOR SHALL PROVIDE BARRICADES, SIGNS, FLASHERS, OTHER EQUIPMENT AND FLAG PERSONS NECESSARY TO INSURE THE SAFETY OF WORKERS AND VISITORS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UTAH TRANSIT AUTHORITY (UTA) IF THE CONSTRUCTION INTERRUPTS OR RELOCATES A BUS STOP OR HAS AN ADVERSE EFFECT ON BUS SERVICE ON THAT STREET TO ARRANGE FOR TEMPORARY RELOCATION OF STOP.

DEMOLITION NOTES

1. EXISTING UTILITY INFORMATION SHOWN IS FOR INFORMATIONAL PURPOSES ONLY. IT IS DERIVED FROM ON-SITE SURVEY AND MAY NOT BE LOCATED CORRECTLY AND IS NOT ALL INCLUSIVE. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES WITHIN THE PROJECT LIMITS BEFORE BEGINNING DEMOLITION/CONSTRUCTION.
2. THERE MAY BE BURIED UTILITIES WITHIN THE LIMITS OF DISTURBANCE THAT ARE NOT SHOWN ON THE PLANS DUE TO LACK OF MAPPING OR RECORD INFORMATION. CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN UNEXPECTED UTILITIES ARE DISCOVERED.
3. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR LOCATING AND PROTECTING FROM DAMAGE ALL EXISTING UTILITIES AND IMPROVEMENTS WHETHER OR NOT SHOWN ON THESE PLANS. THE FACILITIES AND IMPROVEMENTS ARE BELIEVED TO BE CORRECTLY SHOWN BUT THE CONTRACTOR IS REQUIRED TO SATISFY HIMSELF AS TO THE COMPLETENESS AND ACCURACY OF THE LOCATIONS. ANY CONTRACTOR PERFORMING WORK ON THIS PROJECT SHALL FAMILIARIZE HIMSELF WITH THE SITE AND SHALL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING FACILITIES RESULTING DIRECTLY, OR INDIRECTLY, FROM HIS OPERATIONS, WHETHER OR NOT SAID FACILITIES ARE SHOWN ON THESE PLANS.

GRADING AND DRAINAGE NOTES

1. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AND ALL RELATED ADDENDUMS.
2. THE CONTRACTOR SHALL STRIP AND CLEAR THE TOPSOIL, MAJOR ROOTS AND ORGANIC MATERIAL FROM ALL PROPOSED BUILDING AND PAVEMENT AREAS PRIOR TO SITE GRADING. (THE TOPSOIL MAY BE STOCKPILED FOR LATER USE IN LANDSCAPED AREAS.)
3. THE CONTRACTOR SHALL REMOVE ALL ORGANIC MATERIAL AND OTHER DELETERIOUS MATERIALS PRIOR TO PLACING GRADING FILL OR BASE COURSE. THE AREA SHOULD BE PROOF-ROLLED TO IDENTIFY ANY SOFT AREAS. WHERE SOFT AREAS ARE ENCOUNTERED, THE CONTRACTOR SHALL REMOVE THE SOIL AND REPLACE WITH COMPACTED FILL.
4. ALL DEBRIS PILES AND BERMS SHOULD BE REMOVED AND HAULED AWAY FROM SITE OR USED AS GENERAL FILL IN LANDSCAPED AREAS.
5. THE CONTRACTOR SHALL CONSTRUCT THE BUILDING PAD TO THESE DESIGN PLANS AS PART OF THE SITE GRADING CONTRACT, AND STRICTLY ADHERE TO THE SITE PREPARATION AND GRADING REQUIREMENTS OUTLINED IN THE GEOTECHNICAL REPORT.
6. THE CONTRACTOR SHALL GRADE THE PROJECT SITE TO PROVIDE A SMOOTH TRANSITION BETWEEN NEW AND EXISTING ASPHALT, CURB AND GUTTER, AND ADJOINING SITE IMPROVEMENTS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE AND DEBRIS ON ADJACENT STREETS WHEN EQUIPMENT IS TRAVELING THOSE STREETS.
8. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL CONDITIONS AND RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT AND TAKE ALL NECESSARY PRECAUTIONS AND RECOMMENDED PROCEDURES TO ASSURE SOUND GRADING PRACTICES.
9. THE CONTRACTOR SHALL TAKE APPROPRIATE GRADING MEASURES TO DIRECT STORM SURFACE RUNOFF TOWARDS CATCH BASINS.
10. THE LOCATIONS OF UNDERGROUND FACILITIES SHOWN ON THESE PLANS ARE BASED ON ON-SITE SURVEY. IT SHALL BE THE CONTRACTORS' FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO PROCEEDING WITH CONSTRUCTION. NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY HIS WORK FORCE.
11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THIS PROJECT AND THE RELATED OFF-SITE WORK, SO AS TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES, AND SLOPES SHOWN.
12. THE CONTRACTOR IS WARNED THAT AN EARTHWORK BALANCE WAS NOT NECESSARILY THE INTENT OF THIS PROJECT. ANY ADDITIONAL MATERIAL REQUIRED OR LEFTOVER MATERIAL FOLLOWING EARTHWORK OPERATIONS BECOMES THE RESPONSIBILITY OF THE CONTRACTOR.
13. THE GRADING CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER TO PROVIDE FOR THE REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ASSOCIATED PERMIT. ALL CONTRACTOR ACTIVITIES 1 ACRE OR MORE IN SIZE ARE REQUIRED TO PROVIDE A STORM WATER POLLUTION PREVENTION PLAN.
14. ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.
15. THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER FROM GOVERNING AGENCY.
16. THE CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS, AND ALL OTHER PUBLIC RIGHT-OF-WAYS IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE PUBLICLY-OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC, SHALL BE MAINTAINED IN A CLEAN, SAFE, AND USABLE CONDITION.

ABBREVIATIONS

APWA	AMERICAN PUBLIC WORKS ASSOCIATION
AR	ACCESSIBLE ROUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
BOS	BOTTOM OF STEP
BVC	BEGIN VERTICAL CURVE
C	CURVE
CB	CATCH BASIN
CF	CURB FACE
CL	CENTER LINE
CO	CLEAN OUT
COMM	COMMUNICATION
CONC	CONCRETE
CONT	CONTINUOUS
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
ELEC	ELECTRICAL
ELEV	ELEVATION
EOA	EDGE OF ASPHALT
EVC	END OF VERTICAL CURVE
EW	EACH WAY
EXIST	EXISTING
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE OR FLANGE
GB	GRADE BREAK
GV	GATE VALVE
HC	HANDICAP
HP	HIGH POINT
IRR	IRRIGATION
K	RATE OF VERTICAL CURVATURE
LD	LAND DRAIN
LF	LINEAR FEET
LP	LOW POINT
MH	MANHOLE
MJ	MECHANICAL JOINT
NG	NATURAL GROUND
NIC	NOT IN CONTRACT
NO	NUMBER
OC	ON CENTER
OCEW	ON CENTER EACH WAY
OHP	OVERHEAD POWER
PC	POINT OF CURVATURE OR PRESSURE CLASS
PCC	POINT OF COMPOUND CURVATURE
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PL	PROPERTY LINE
PRC	POINT OF REVERSE CURVATURE
PRO	PROPOSED
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
R	RADIUS
RD	ROOF DRAIN
ROW	RIGHT OF WAY
S	SLOPE
SAN SWR	SANITARY SEWER
SD	STORM DRAIN
SEC	SECONDARY
SS	SANITARY SEWER
STA	STATION
SW	SIDEWALK
SWL	SECONDARY WATER LINE
TBC	TOP BACK OF CURB
TOG	TOP OF GRATE
TOA	TOP OF ASPHALT
TOC	TOP OF CONCRETE
TOF	TOP OF FOUNDATION
TOW	TOP OF WALL
TOS	TOP OF STEP
TYP	TYPICAL
VC	VERTICAL CURVE
WIV	WALL INDICATOR VALVE
WL	WATER LINE

NOTE: MAY CONTAIN ABBREVIATIONS THAT ARE NOT USED IN THIS PLAN SET.

LEGEND

SECTION CORNER	EXISTING EDGE OF ASPHALT
EXISTING MONUMENT	PROPOSED EDGE OF ASPHALT
PROPOSED MONUMENT	EXISTING STRIPING
EXISTING REBAR AND CAP	PROPOSED STRIPING
SET ENSIGN REBAR AND CAP	EXISTING FENCE
EXISTING WATER METER	PROPOSED FENCE
PROPOSED WATER METER	EXISTING FLOW LINE
EXISTING WATER MANHOLE	PROPOSED FLOW LINE
PROPOSED WATER MANHOLE	GRADE BREAK
EXISTING WATER BOX	EXISTING STORM DRAIN LINE
EXISTING WATER VALVE	PROPOSED STORM DRAIN LINE
PROPOSED WATER VALVE	ROOF DRAIN LINE
EXISTING FIRE HYDRANT	CATCHMENTS
PROPOSED FIRE HYDRANT	HIGHWATER LINE
PROPOSED FIRE DEPARTMENT CONNECTION	EXISTING SANITARY SEWER
EXISTING SECONDARY WATER VALVE	PROPOSED SANITARY SEWER LINE
PROPOSED SECONDARY WATER VALVE	PROPOSED SAN. SWR. SERVICE LINE
EXISTING IRRIGATION BOX	EXISTING LAND DRAIN LINE
EXISTING IRRIGATION VALVE	PROPOSED LAND DRAIN LINE
PROPOSED IRRIGATION VALVE	PROPOSED LAND DRAIN SERVICE LINE
EXISTING SANITARY SEWER MANHOLE	EXISTING CULINARY WATER LINE
PROPOSED SANITARY SEWER MANHOLE	PROPOSED CULINARY WATER LINE
EXISTING SANITARY CLEAN OUT	PROPOSED CULINARY WATER SERVICE LINE
EXISTING STORM DRAIN CLEAN OUT BOX	EXISTING SECONDARY WATER LINE
PROPOSED STORM DRAIN CLEAN OUT BOX	PROPOSED SECONDARY WATER LINE
EXISTING STORM DRAIN INLET BOX	PROPOSED SEC. WATER SERVICE LINE
EXISTING STORM DRAIN CATCH BASIN	EXISTING IRRIGATION LINE
PROPOSED STORM DRAIN CATCH BASIN	PROPOSED IRRIGATION LINE
EXISTING STORM DRAIN COMBO BOX	EXISTING OVERHEAD POWER LINE
PROPOSED STORM DRAIN COMBO BOX	EXISTING ELECTRICAL LINE
EXISTING STORM DRAIN CLEAN OUT	EXISTING GAS LINE
EXISTING STORM DRAIN CULVERT	EXISTING TELEPHONE LINE
PROPOSED STORM DRAIN CULVERT	ACCESSIBLE ROUTE
TEMPORARY SAG INLET PROTECTION	SAW CUT LINE
TEMPORARY IN-LINE INLET PROTECTION	STRAW WATTLE
ROOF DRAIN	TEMPORARY BERM
EXISTING ELECTRICAL MANHOLE	TEMPORARY SILT FENCE
EXISTING ELECTRICAL BOX	LIMITS OF DISTURBANCE
EXISTING TRANSFORMER	EXISTING WALL
EXISTING UTILITY POLE	PROPOSED WALL
EXISTING LIGHT	EXISTING CONTOURS
PROPOSED LIGHT	PROPOSED CONTOURS
EXISTING GAS METER	BUILDABLE AREA WITHIN SETBACKS
EXISTING GAS MANHOLE	PUBLIC DRAINAGE EASEMENT
EXISTING GAS VALVE	EXISTING ASPHALT TO BE REMOVED
EXISTING TELEPHONE MANHOLE	PROPOSED ASPHALT
EXISTING TELEPHONE BOX	EXISTING CURB AND GUTTER
EXISTING TRAFFIC SIGNAL BOX	PROPOSED CURB AND GUTTER
EXISTING CABLE BOX	PROPOSED REVERSE PAN CURB AND GUTTER
EXISTING BOLLARD	TRANSITION TO REVERSE PAN CURB
PROPOSED BOLLARD	CONCRETE TO BE REMOVED
EXISTING SIGN	EXISTING CONCRETE
PROPOSED SIGN	PROPOSED CONCRETE
EXISTING SPOT ELEVATION	BUILDING TO BE REMOVED
PROPOSED SPOT ELEVATION	EXISTING BUILDING
EXISTING FLOW DIRECTION	PROPOSED BUILDING
EXISTING TREE	
DENSE VEGETATION	

NOTE: MAY CONTAIN SYMBOLS THAT ARE NOT USED IN THIS PLAN SET.

ENSIGN
THE STANDARD IN ENGINEERING

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4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

LICENSED PROFESSIONAL ENGINEER
No. 169379
ROBERT Q. ELDER
8-3-15
STATE OF UTAH

NO.	DATE	REVISION	BY
1			
2			
3			
4			
5			
6			
7			
8			

GENERAL NOTES PLAN

PROJECT NUMBER: 6001
PRINT DATE: 8/3/15
DRAWN BY: J. JOHNSON
CHECKED BY: K. WHITE
PROJECT MANAGER: R. ELDER

C-001

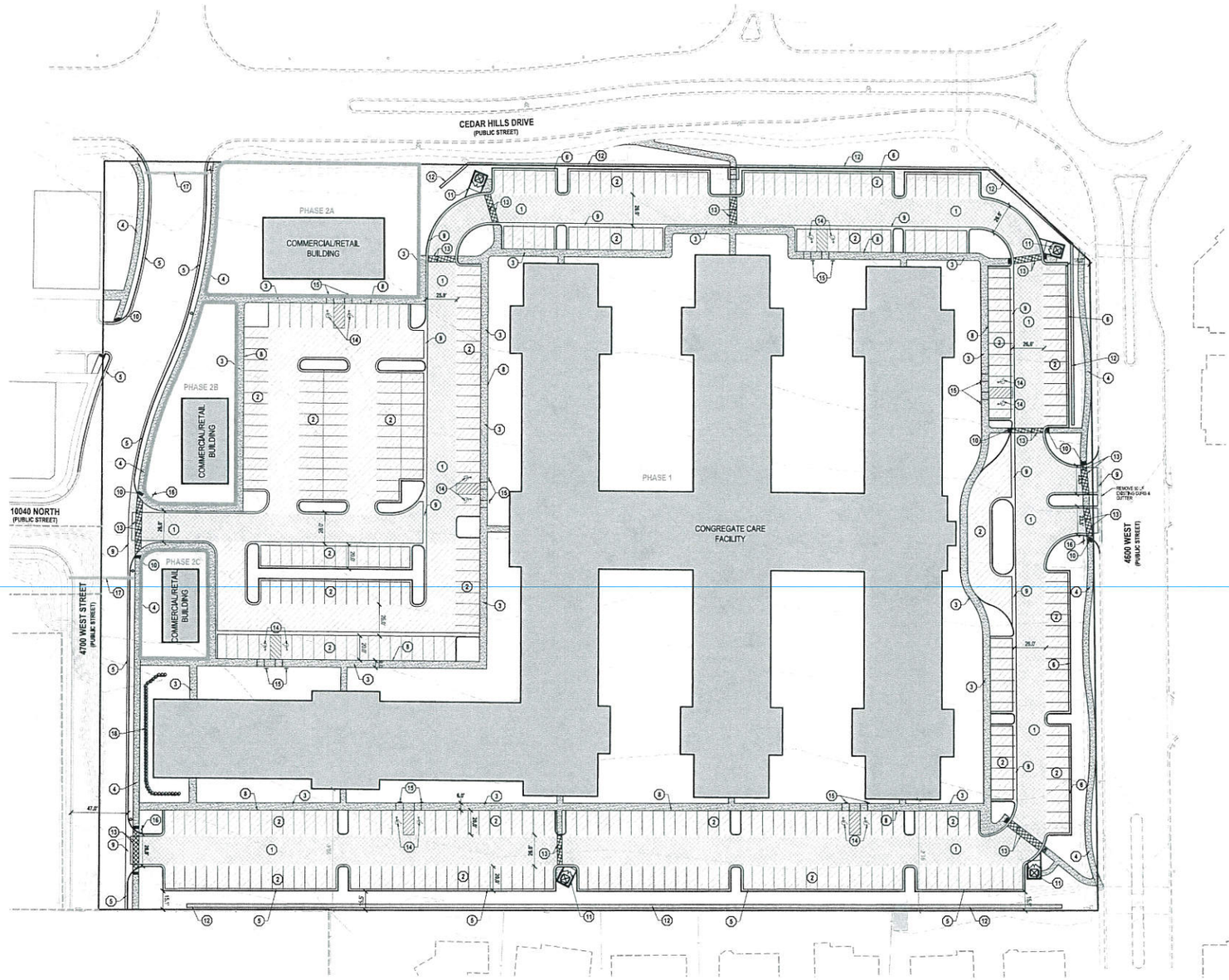
CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION

Know what's below. Call before you dig.

BENCHMARK

NORTHWEST CORNER OF SECTION 6
TOWNSHIP 5 SOUTH, RANGE 2 EAST
SALT LAKE BASE & MERIDIAN

ELEVATION = 4901.33



GENERAL NOTES

1. ALL WORK TO COMPLY WITH THE GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
2. ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS AND RECOMMENDATIONS.
3. SEE LANDSCAPE/ARCHITECTURAL PLANS FOR CONCRETE MATERIAL, COLOR, FINISH, AND SCORE PATTERNS THROUGHOUT SITE.
4. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE M.U.T.C.D. (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES).
5. ALL SURFACE IMPROVEMENTS DISTURBED BY CONSTRUCTION SHALL BE RESTORED OR REPLACED, INCLUDING TREES AND DECORATIVE SHRUBS, SOD, FENCES, WALLS AND STRUCTURES, WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS.
6. NOTIFY ENGINEER OF ANY DISCREPANCIES IN DESIGN OR STAKING BEFORE PLACING CONCRETE OR ASPHALT.
7. THE CONTRACTOR IS TO PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, AND SIGNS, ETC. UNLESS OTHERWISE NOTED ON THESE PLANS.

SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS.

1. ASPHALT PAVEMENT: 3.5" THICK ASPHALTIC CONCRETE WITH 8" UNTREATED BASE COURSE PER GEOTECHNICAL REPORT PER DETAIL 8/C-500.
2. LIGHT-DUTY ASPHALT PAVEMENT: 3" THICK ASPHALTIC CONCRETE WITH 6" UNTREATED BASE COURSE PER GEOTECHNICAL REPORT PER DETAIL 8/C-500.
3. DECORATIVE CONCRETE SIDEWALK PER DETAIL 207-208/C-501.
4. 4" THICK CONCRETE SIDEWALK PER DETAIL 207-208/C-501.
5. 24" COLLECTION CURB AND GUTTER PER DETAIL X/C-501.
6. 24" REVERSE PAN CURB AND GUTTER PER DETAIL X/C-XXX.
7. TRANSITION BETWEEN COLLECTION CURB AND GUTTER AND REVERSE PAN CURB AND GUTTER.
8. 24" TYPE "A" CURB AND GUTTER WITH 1" CURB FACE SIMILAR TO APWA STANDARD PLAN NO. 205 AND SPECIFICATIONS.
9. 3' WATERWAY PER APWA STANDARD PLAN NO. 211 AND SPECIFICATIONS DETAIL 14/C-500
10. HANDICAP ACCESS RAMP PER APWA STANDARD PLAN NO. 235 WITH DETECTABLE WARNING SURFACE PER APWA STANDARD PLAN NO. 236 AND SPECIFICATIONS SEE DETAIL 11/C-500
11. TRASH ENCLOSURE PER ARCHITECTURAL PLANS WITH 6" THICK CONCRETE APRON WITH #4 REBAR @ 24" O.C. E.W. ON 6" GRAVEL BASE.
12. RETAINING WALL. SEE GRADING PLAN FOR ELEVATION INFORMATION.
13. WHITE CROSSWALK MARKING PER M.U.T.C.D., STANDARD PLANS
14. PAINTED ADA SYMBOL AND ASSOCIATED HATCHING PER M.U.T.C.D., STANDARD PLANS.
15. "HANDICAP PARKING" SIGN PER M.U.T.C.D., STANDARD PLANS SEE DETAIL 12/C-500
16. "STOP" SIGN PER M.U.T.C.D., STANDARD PLANS.
17. INSTALL CONDUITS PER DETAIL 503/C-503
18. STACKED ROCK WALL

SITE SUMMARY TABLE

AREA	PAVEMENT	ROOF	LANDSCAPING	TOTAL
RETAIL	73,552 SF	8,450 SF	46,687 SF	128,688 SF
CONGREGATE CARE	112,909 SF	120,032 SF	135,768 SF	368,709 SF
TOTAL SITE	186,461 SF	128,482 SF	182,455 SF	497,408 SF
PERCENTAGE	37%	25%	37%	100%

PARKING SUMMARY TABLE

AREA	REGULAR STALLS	HANDICAP STALLS	TOTAL STALLS
RETAIL	131	4	135
CONGREGATE CARE	284	10	294
TOTAL SITE	415	14	429

NORTH

HORIZONTAL GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
HORZ: 1 inch = 40 ft.

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ROSEGATE AT CEDAR HILLS SENIOR LIVING FACILITY

4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

LICENSED PROFESSIONAL ENGINEER
No. 169379
ROBERT Q. ELDER
8-3-15
STATE OF UTAH

NO.	DATE	REVISION	BY
1			
2			
3			
4			
5			

SITE PLAN

PROJECT NUMBER: 8201
PRINT DATE: 8/3/15
DRAWN BY: J. JOHNSON
CHECKED BY: K. WHITE
PROJECT MANAGER: R. ELDER

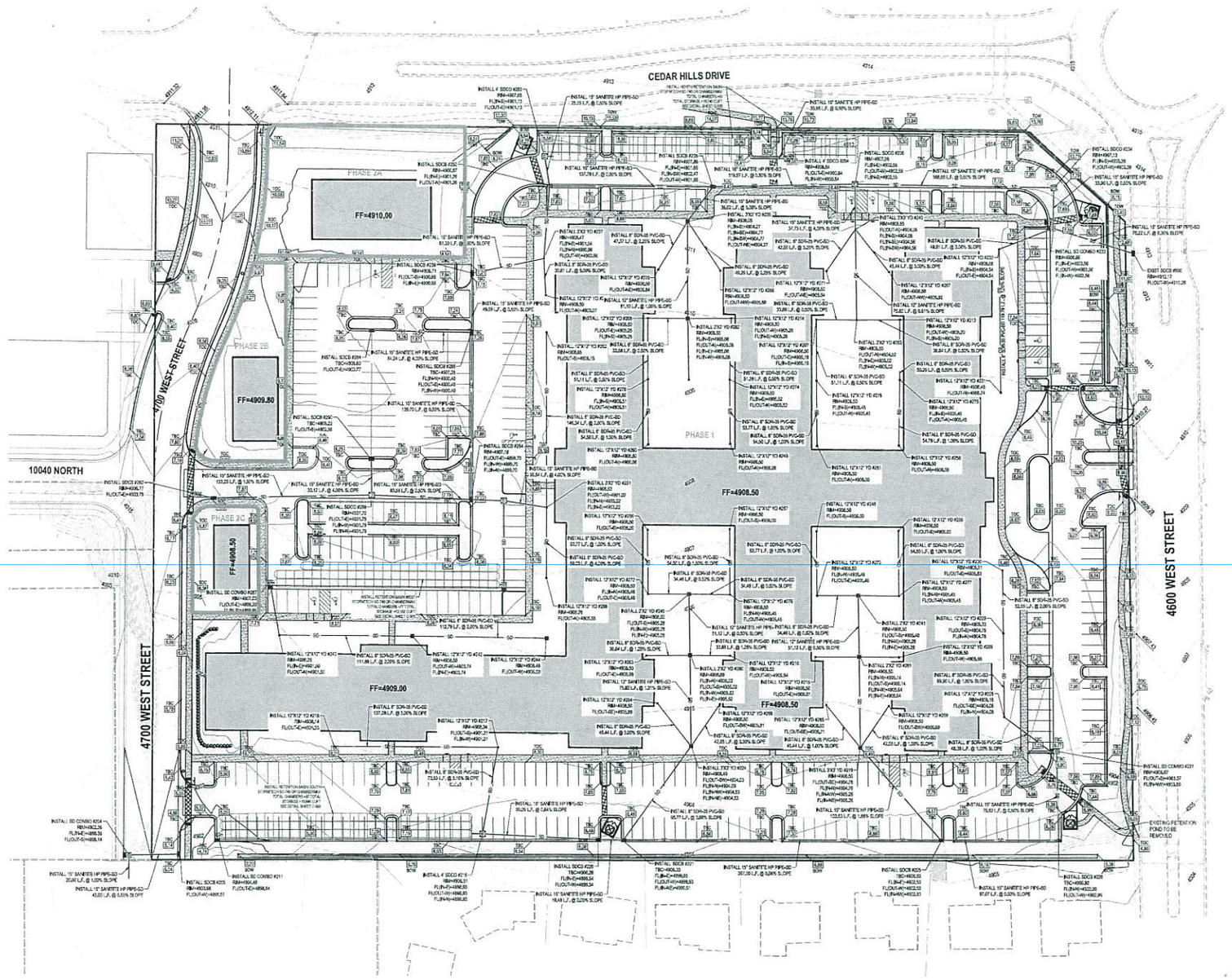
C-100

CALL BLUESTAKES @811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION

BENCHMARK

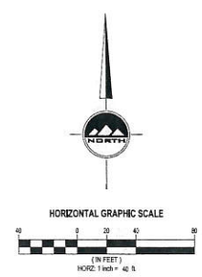
NORTHWEST CORNER OF SECTION 6 TOWNSHIP 5 SOUTH, RANGE 3 EAST SALT LAKE BASE & MERIDIAN

ELEVATION = 4801.33'



GENERAL NOTES

1. ALL WORK TO COMPLY WITH THE GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
2. ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS AND RECOMMENDATIONS.
3. ALL WORK SHALL COMPLY WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER POSSIBLY INCLUDING, BUT NOT LIMITED TO, REMOVAL OF UNCONSOLIDATED FILL, ORGANICS, AND DEBRIS, PLACEMENT OF SUBSURFACE DRAIN LINES AND GEOTEXTILE, AND OVEREXCAVATION OF UNSUITABLE BEARING MATERIALS AND PLACEMENT OF ACCEPTABLE FILL MATERIAL.
4. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE EXISTING SOIL CONDITIONS.
5. ELEVATIONS HAVE BEEN TRUNCATED FOR CLARITY. XX.XX REPRESENTS AN ELEVATION OF 48XX.XX ON THESE PLANS.
6. LANDSCAPED AREAS REQUIRE SUBGRADE TO BE MAINTAINED AT A SPECIFIC ELEVATION BELOW FINISHED GRADE AND REQUIRE SUBGRADE TO BE PROPERLY PREPARED AND SCARIFIED. SEE LANDSCAPE PLANS FOR ADDITIONAL INFORMATION.
7. SLOPE ALL LANDSCAPED AREAS AWAY FROM BUILDING FOUNDATIONS TOWARD CURB AND GUTTER OR STORM DRAIN INLETS.
8. EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF THE CONTRACTOR'S FAILURE TO VERIFY THE LOCATIONS OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT. THE CONTRACTOR IS TO VERIFY ALL CONNECTION POINTS WITH THE EXISTING UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN. IF CONFLICTS WITH EXISTING UTILITIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION TO DETERMINE IF ANY FIELD ADJUSTMENTS SHOULD BE MADE.
9. ALL STORM DRAIN INFRASTRUCTURE TO BE INSTALLED PER GOVERNING AGENCY OR APWA STANDARD PLANS AND SPECIFICATIONS.
10. THE CONTRACTOR SHALL ADJUST TO GRADE ALL EXISTING UTILITIES AS NEEDED PER LOCAL GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
11. NOTIFY ENGINEER OF ANY DISCREPANCIES IN DESIGN OR STAKING BEFORE PLACING CONCRETE, ASPHALT, OR STORM DRAIN STRUCTURES OR PIPES.
12. ENSURE MINIMUM COVER OVER ALL STORM DRAIN PIPES PER MANUFACTURER'S RECOMMENDATIONS. NOTIFY ENGINEER IF MINIMUM COVER CANNOT BE ATTAINED.
13. ALL FACILITIES WITH DOWNSPOUTS/ROOF DRAINS SHALL BE CONNECTED TO THE STORM DRAIN SYSTEM. SEE MECHANICAL/PLUMBING PLANS FOR DOWNSPOUT/ROOF DRAIN LOCATIONS AND SIZES.
14. THE CONTRACTOR IS TO PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, AND SIGNS, ETC. UNLESS OTHERWISE NOTED ON THESE PLANS.



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PHONE 801-205-5500

ROSEGATE AT CEDAR HILLS SENIOR LIVING FACILITY

4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

LICENSED PROFESSIONAL ENGINEER No. 169379 ROBERT Q. ELDER 8-3-15 STATE OF UTAH

NO.	DATE	REVISION	BY

GRADING AND DRAINAGE PLAN

PROJECT NUMBER: 6001	PRINT DATE: 8-4-15
DRAWN BY: J. JOHNSON	CHECKED BY: K. WHITE
PROJECT MANAGER: R. ELDER	

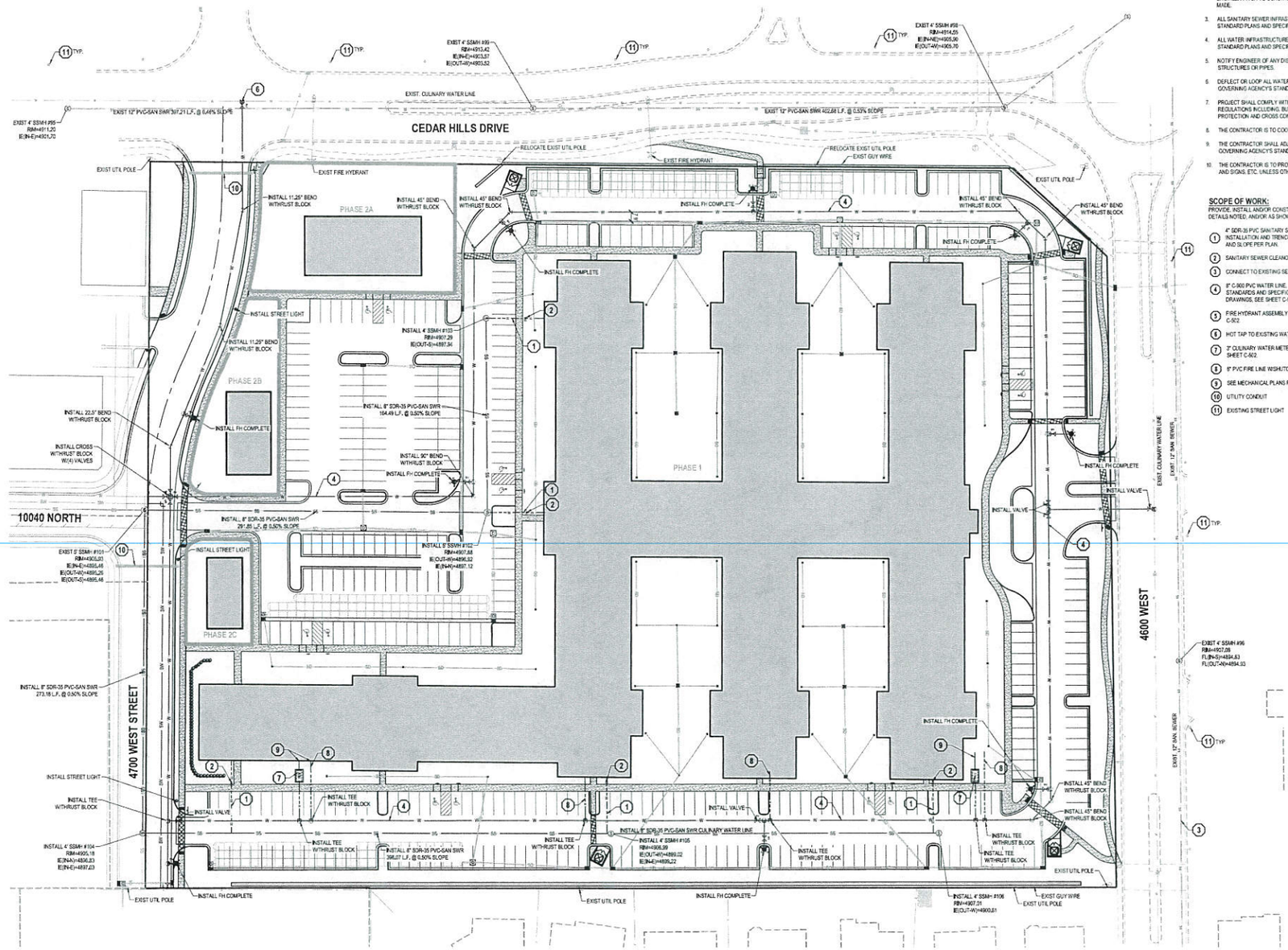
C-200

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION

BENCHMARK

NORTHWEST CORNER OF SECTION 6 TOWNSHIP 5 SOUTH, RANGE 2 EAST SALT LAKE BASE & MERIDIAN

ELEVATION = 4901.37



GENERAL NOTES

1. ALL WORK TO COMPLY WITH THE GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
2. EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF THE CONTRACTOR'S FAILURE TO VERIFY THE LOCATIONS OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT. THE CONTRACTOR IS TO VERIFY ALL CONNECTION POINTS WITH THE EXISTING UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN. IF CONFLICTS WITH EXISTING UTILITIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION TO DETERMINE IF ANY FIELD ADJUSTMENTS SHOULD BE MADE.
3. ALL SANITARY SEWER INFRASTRUCTURE TO BE INSTALLED PER GOVERNING AGENCY STANDARD PLANS AND SPECIFICATIONS.
4. ALL WATER INFRASTRUCTURE TO BE INSTALLED PER GOVERNING AGENCY OR APWA STANDARD PLANS AND SPECIFICATIONS.
5. NOTIFY ENGINEER OF ANY DISCREPANCIES IN DESIGN OR STAKING BEFORE PLACING UTILITY STRUCTURES OR PIPES.
6. DEFLECT OR LOOP ALL WATERLINES TO AVOID CONFLICTS WITH OTHER UTILITIES PER GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
7. PROJECT SHALL COMPLY WITH ALL UTAH DIVISION OF DRINKING WATER RULES AND REGULATIONS INCLUDING, BUT NOT LIMITED TO, THOSE PERTAINING TO BACKFLOW PROTECTION AND CROSS CONNECTION PREVENTION.
8. THE CONTRACTOR IS TO COORDINATE ALL UTILITIES WITH MECHANICAL/PLUMBING PLANS.
9. THE CONTRACTOR SHALL ADJUST TO GRADE ALL EXISTING UTILITIES AS NEEDED PER LOCAL GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
10. THE CONTRACTOR IS TO PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, AND SIGNS, ETC. UNLESS OTHERWISE NOTED ON THESE PLANS.

SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS.

1. 4" SDR-35 PVC SANITARY SEWER LATERAL, INCLUDING CLEANOUTS AT MAXIMUM 100 FOOT SPACING, INSTALLATION AND TRENCHING PER GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS. LENGTH AND SLOPE PER PLAN.
2. SANITARY SEWER CLEANOUT PER CEDAR HILLS STANDARD DRAWING NO. 301, SEE SHEET C-502.
3. CONNECT TO EXISTING SEWER MAIN PER GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
4. 8" C-900 PVC WATER LINE, INCLUDING ALL THRUST BLOCKING AND FITTINGS, PER GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS. INSTALLATION AND TRENCHING PER CEDAR HILLS STANDARD DRAWINGS, SEE SHEET C-502.
5. FIRE HYDRANT ASSEMBLY COMPLETE PER CEDAR HILLS STANDARD DRAWING NO. 401 & 402, SEE SHEET C-502.
6. HOT TAP TO EXISTING WATER LINE PER GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
7. 3" CULINARY WATER METER AND CONCRETE VAULT PER CEDAR HILLS STANDARD DRAWING NO. 406, SEE SHEET C-502.
8. 8" PVC FIRE LINE WISHUTOFF VALVE.
9. SEE MECHANICAL PLANS FOR CONTINUATION.
10. UTILITY CONDUIT
11. EXISTING STREET LIGHT

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CONTACT
DOUG YOUNG
PHONE 801-285-5500

ROSEGATE AT CEDAR HILLS SENIOR LIVING FACILITY

4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

LICENSED PROFESSIONAL ENGINEER
No. 159379
ROBERT Q. ELDER
8-3-15
STATE OF UTAH

NO.	DATE	REVISION	BY

UTILITY PLAN

PROJECT NUMBER 8201
PRINT DATE 8/4/15
DRAWN BY J. JOHNSON
CHECKED BY K. WHITE
PROJECT MANAGER R. ELDER

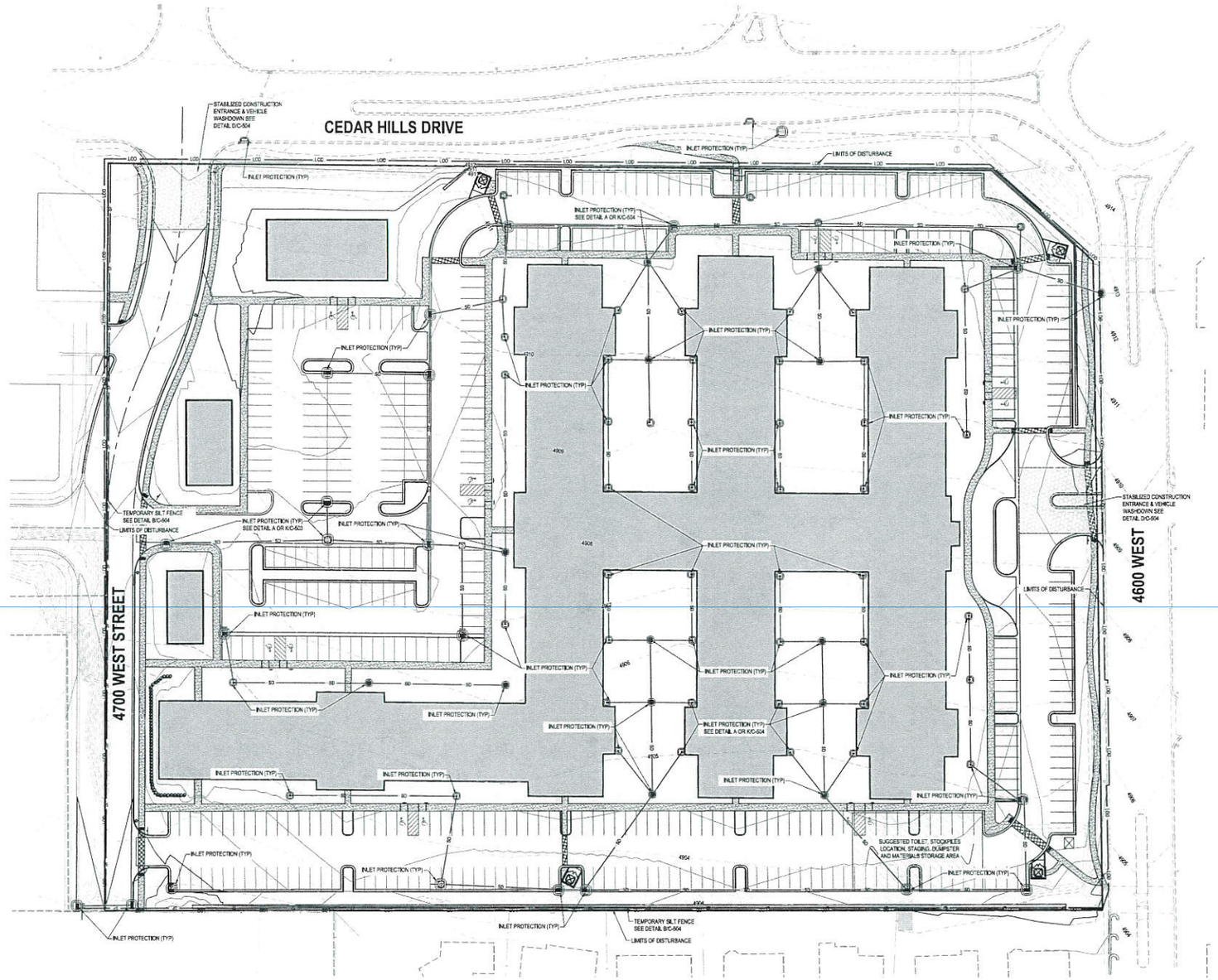
C-300

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION

BENCHMARK

NORTHWEST CORNER OF SECTION 6 TOWNSHIP 5 SOUTH, RANGE 2 EAST SALT LAKE BASE & MERIDIAN

ELEVATION = 4901.33'



GENERAL NOTES

1. THIS PLAN IS DESIGNED AS A FIRST APPRAISAL OF NECESSARY MEANS TO PROTECT THE WATERS OF THE STATE FROM POTENTIAL POLLUTION. IT IS THE RESPONSIBILITY OF THE OWNER/OPERATOR TO ADD WARRANTED BEST MANAGEMENT PRACTICES (BMPS) AS NECESSARY, MODIFY THOSE SHOWN AS APPROPRIATE, AND DELETE FROM THE PROJECT THOSE FOUND TO BE UNNECESSARY. FEDERAL AND STATE LAW ALLOWS THESE UPDATES TO BE MADE BY THE OWNER/OPERATOR ONSITE AND RECORDED BY THE OWNER/OPERATOR ON THE COPY OF THE SWPPP KEPT ONSITE.
2. DISTURBED LAND SHALL BE KEPT TO A MINIMUM. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. HOWEVER, WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
3. RESEED DISTURBED LAND WITH NATIVE GRASS MIXTURE WITHIN 14 CALENDAR DAYS OF ACHIEVEMENT OF FINISH GRADE TO STABILIZE SOILS IF LAND IS NOT TO BE RE-WORKED WITHIN 14 CALENDAR DAYS OF THE CESSATION OF CONSTRUCTION ACTIVITIES AT THAT LOCATION.
4. DETAILS SHOWN ARE TO BE EMPLOYED TO PROTECT RUNOFF AS APPROPRIATE DURING CONSTRUCTION. NOT ALL DETAILS ARE NECESSARY AT ALL PHASES OF THE PROJECT. IT SHALL BE THE RESPONSIBILITY OF THE OWNER/OPERATOR TO USE APPROPRIATE BEST MANAGEMENT PRACTICES AT THE APPROPRIATE PHASE OF CONSTRUCTION. SEE SWPPP FOR BMP IMPLEMENTATION SCHEDULE.
5. VARIOUS BEST MANAGEMENT PRACTICES HAVE BEEN SHOWN ON THE PLANS AT SUGGESTED LOCATIONS. THE CONTRACTOR MAY MOVE AND RECONFIGURE THESE BMPS TO OTHER LOCATIONS IF PREFERRED, PROVIDED THE INTENT OF THE DESIGN IS PRESERVED.
6. NOT ALL POSSIBLE BMPS HAVE BEEN SHOWN. THE CONTRACTOR IS RESPONSIBLE TO APPLY CORRECT MEASURES TO PREVENT THE POLLUTION OF STORM WATER PER PROJECT SWPPP.
7. A UPDES (UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM) PERMIT IS REQUIRED FOR ALL CONSTRUCTION ACTIVITIES 1 ACRE OR MORE.

REVISION SCHEDULE

NUMBER	DATE	AUTHOR	COMPANY REPRESENTATIVE SIGNATURE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

NORTH

HORIZONTAL GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
HORZ. 1 inch = 40 ft.

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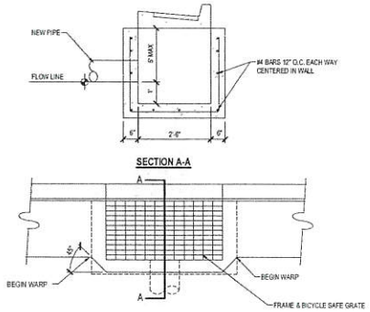
No. 159279
ROBERT Q. ELDER
8-3-15
STATE OF UTAH

NO.	DATE	REVISION	BY
1			
2			
3			
4			
5			

EROSION CONTROL PLAN

PROJECT NUMBER: 5201
PRINT DATE: 8/4/15
DRAWN BY: J. JOHNSON
CHECKED BY: K. WHITE
PROJECT MANAGER: R. ELDER

C-400

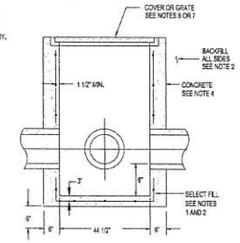


1 CURB INLET DETAIL

Scale: NTS

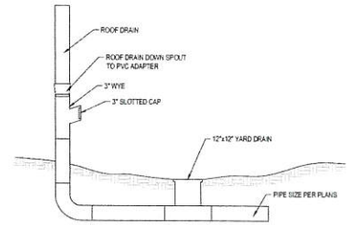
NOTES:

1. SELECT FILL: USE UNTREATED BASE COURSE GRADE 1 OR GRADE 3/4 PER SPECIFICATIONS. USE OF SEWER ROCK OR RECYCLED AGGREGATE REQUIRES ENGINEER'S WRITTEN APPROVAL.
2. BACKFILL: INSTALL AND COMPACT ALL BACKFILL MATERIAL.
3. REINFORCEMENT: USE ASTM A 615, GRADE 60, DEFORMED STEEL REBAR.
4. CONCRETE: CLASS 4,000 P.S.I.
5. PIPE LATERALS: THE DRAWING SHOWS ALTERNATE CONNECTIONS TO THE CURB OUTLET. REFER TO CONSTRUCTION DRAWINGS FOR CONNECTION LOCATIONS.
6. COVER AND FRAME: H5-20 LOADING.
7. GRATE AND FRAME: H5-20 LOADING.
8. PRECAST BOX DIMENSIONS MAY VARY. USE A STANDARD BOX AND SUBMIT FOR APPROVAL.



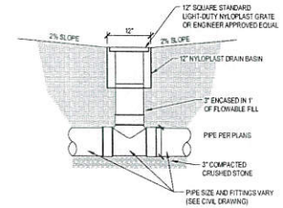
2 STORM DRAIN CLEANOUT BOX

Scale: NTS



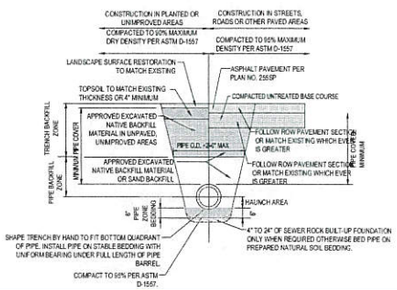
3 ROOF DRAIN CONNECTION

Scale: NTS



4 12" x 12" YARD DRAIN

Scale: NTS



5 STORM DRAIN TRENCH DETAIL

Scale: NTS

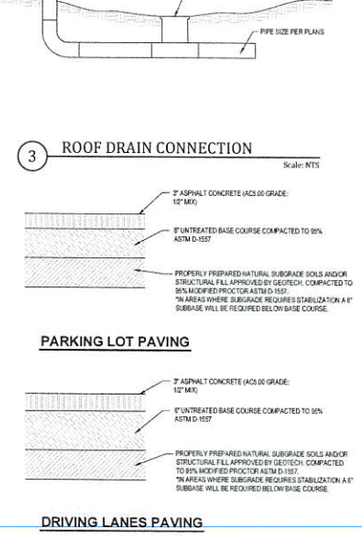
	PIPE MATERIAL	
CONDITIONS	ADS, CMP, & PVC	CONCRETE B & V
BUILT UP FOUNDATION	4" TO 2" SEWER ROCK	4" TO 2" SEWER ROCK
BEDDING ZONE	GRAVEL IMPORT	NATURAL SOIL, GRAVEL OR SAND
PIPE BACKFILL ZONE	SAND OR GRAVEL IMPORT	EXCAVATED BACKFILL OR SAND IMPORT
TRENCH BACKFILL ZONE	EXCAVATED BACKFILL OR GRAVEL/SAND	EXCAVATED BACKFILL OR GRAVEL/SAND
MINIMUM PIPE COVER	2'	1'
HAUNCH AREA	SAND IMPORT	SAND OR GRAVEL IMPORT

NOTES

1. BACKFILL LIMIT MAXIMUM PARTICLE SIZE IN TRENCH BACKFILL TO 6-INCHES.
   A. BACKFILL MATERIAL PLACE BACKFILL PER APWA SECTION 02221. COMPACT PER APWA SECTION 02324 TO A MODIFIED PROCTOR DENSITY OF 95-PERCENT OR GREATER. MAXIMUM LIFT THICKNESS IS 8-INCHES BEFORE COMPACTION.
   B. SUBMISSION OF QUALITY CONTROL COMPACTION TEST RESULT DATA MAY BE REQUESTED BY THE CITY AT ANY TIME. CONTRACTOR TO PROVIDE RESULTS OF TEST IMMEDIATELY UPON REQUEST.
2. LANDSCAPE RESTORATION: PROVIDE LANDSCAPED SURFACES WITH TOPSOIL RAKE TO MATCH EXISTING GRADE. REPLACE VEGETATION TO MATCH PRE-CONSTRUCTION CONDITIONS. SEE APWA SECTION 02930 OR 02932 REQUIREMENTS.
3. PAVEMENT RESTORATION: DO NOT INSTALL ASPHALT OR CONCRETE SURFACING UNTIL TRENCH COMPACTION IS ACCEPTED BY CITY.
4. PIPE LOCATION: INSTALL PIPE IN CENTER OF TRENCH NO CLOSER THAN 6-INCHES FROM WALL OF PIPE TO WALL OF TRENCH.
5. TRENCH IS TO MEET OR EXCEED OSHA STANDARDS.
6. FOLLOW PIPE MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION IF MORE STRINGENT.

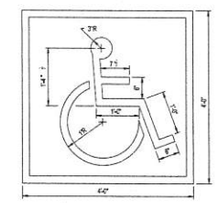
6 STORM DRAIN TRENCH NOTES

Scale: NTS



8 TYPICAL PAVEMENT SECTIONS

Scale: NTS

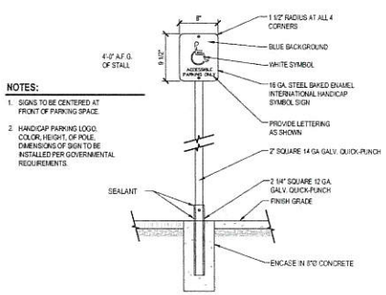


NOTES:

1. INTERNATIONAL PICTOGRAPH SYMBOL WHITE FED. STD. 17875.
2. 4"-BORDER-WHITE FED. STD. 17875.
3. BACKGROUND-BLUE FED. STD. 15180.

11 STALL PAVEMENT MARKING

Scale: NTS



NOTES:

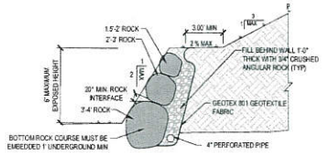
1. SIGNS TO BE CENTERED AT FRONT OF PARKING SPACE.
2. HANDICAP PARKING LOGO. COLOR, HEIGHT, OF POLE, DIMENSIONS OF SIGN TO BE INSTALLED PER GOVERNMENTAL REQUIREMENTS.

12 ACCESSIBLE PARKING SIGN

Scale: NTS

ROCK WALL NOTES:

1. THE RESPONSIBILITY OF STANDARD ROCK WALLS REMAINS WITH THE ROCK WALL BUILDER.
2. ANY MODIFICATIONS TO THE WALL OR THE HILLSIDE ABOVE OR BELOW THE WALL POST CONSTRUCTION WILL REMOVE THE RESPONSIBILITY FROM THE DESIGN ENGINEER.
3. ALL FILL TO BE COMPACTED TO 90% MAX DRY DENSITY PER ASTM D-1557 PLACED IN 8" LIFTS.
4. CONTINUOUS JOINTS OR PLANES ARE NOT ALLOWED.
5. IT IS THE OWNER'S RESPONSIBILITY TO INTERCEPT SURFACE DRAINAGE FROM ABOVE THE ROCK WALL AND DIRECT IT AWAY FROM THE WALL TO A PERMANENT DISCHARGE POINT WELL AWAY FROM THE TOE OF THE ROCK WALL.
6. ALL ROCK SHALL BE ANGULAR AND QUARRIED USING NON-EXPLOSIVE METHODS.
7. MINIMUM ROCK SIZE IS 1.5' DIAMETER.
8. PLACE ROCKS SO THAT THEY INTERLOCK WITH EACH OTHER WITH UPPER ROCK OFFSET SO THAT IT RESTS ON 2 LOWER ROCKS.
9. SLOPES NOT PROTECTED WITH ROCKS OR AREAS OF SOIL BETWEEN THE ROCKS SHOULD BE PROTECTED FROM EROSION BY REVEGETATION OR OTHER METHODS.
10. MAINTENANCE OF ROCK-PROTECTED SLOPES WILL BE REQUIRED AS THE ROCKS SETTLE AND MOVE OVER TIME. LOCALIZED AREAS OF ROCK-PROTECTED SLOPE MAY NEED ADJUSTMENT TO IMPROVE ROCK INTERLOCKING OVER TIME. ADEQUATE BACKFILL OR ROCK TO ROCK CONTACT SHOULD BE MAINTAINED TO PREVENT SIGNIFICANT MOVEMENT OF THE TOP ROW OF ROCKS.
11. CARE SHOULD BE TAKEN NOT TO OVER WATER THE SOIL LOCATED ABOVE AND BEHIND THE ROCK-PROTECTED SLOPES. OVER WATERING WILL LIKELY RESULT IN SOIL ERODING THROUGH THE JOINTS BETWEEN THE ROCKS.
12. GOOD SURFACE DRAINAGE SHOULD BE PROVIDED UPSLOPE OF THE ROCK-PROTECTED SLOPES TO DIRECT RUNOFF AWAY FROM THE ROCK PROTECTED SLOPES.

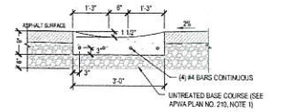


13 STACKED ROCK RETAINING WALL

Scale: NTS

WATERWAY NOTES:

1. UNTREATED BASE COURSE: PROVIDE MATERIAL SPECIFIED IN APWA SECTION 32290 DO NOT USE GRAVEL OR SEWER ROCK. PLACE MATERIAL PER APWA SECTION 02222. COMPACT PER APWA SECTION 02324 TO A MODIFIED PROCTOR DENSITY OF 95 PERCENT OR GREATER. MAXIMUM LIFT THICKNESS IS 8-INCHES AFTER COMPACTION.
2. CONCRETE: CLASS 4000 PER APWA SECTION 03304
   A. IF NECESSARY, PROVIDE CONCRETE THAT ACHIEVES DESIGN STRENGTH IN LESS THAN 7 DAYS USE CAUTION HOWEVER, AS SPIDER CRACKS DEVELOP IF AIR TEMPERATURE EXCEEDS 90 DEGREES FAHRENHEIT.
   B. PLACE CONCRETE PER APWA SECTION 03770
   C. UNLESS SHOWN OTHERWISE, PROVIDE 1/2 INCH RADIUS ON CONCRETE EDGES EXPOSED TO PUBLIC VIEW
   D. APPLY A CURING COMPOUND PER APWA SECTION 03390 OR USE AN ACCEPTABLE ALTERNATE CURING METHOD
3. EXPANSION JOINTS: FULL DEPTH 1/2 INCH THICK TYPE F1 JOINT FILLER MATERIAL PER APWA SECTION 03350. SET TOP OF FILLER FLUSH WITH SURFACE OF CONCRETE.
4. CONTRACTION JOINTS: MAKE CONTRACTION JOINTS VERTICAL, AT LEAST 1/8 INCH WIDE, AND 2 INCHES DEEP OR 1/4 SLAB THICKNESS IF THE SLAB IS GREATER THAN 8 INCHES THICK.
5. REINFORCEMENT: ASTM A 615, GRADE 60, GALVANIZED OR EPOXY COATED DEFORMED STEEL. SEE APWA SECTION 03200 REQUIREMENTS.



14 3' WATERWAY DETAIL

Scale: NTS

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ROSEGATE AT CEDAR HILLS SENIOR LIVING FACILITY

4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

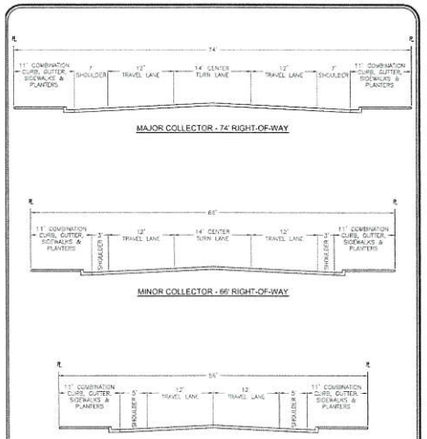
No. 199379
ROBERT Q. ELDER
8-3-15
STATE OF UTAH

NO.	DATE	NUMBER	BY
1			
2			
3			
4			
5			
6			
7			
8			

DETAIL SHEET

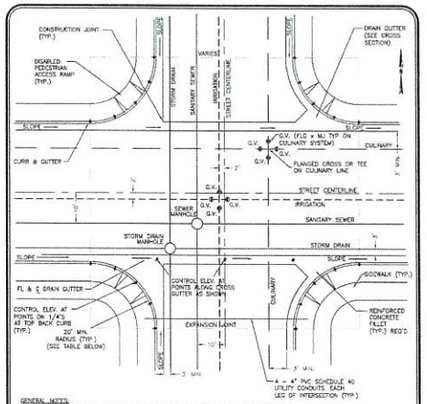
PROJECT NUMBER: 6001
PRINT DATE: 8/3/15
DRAWN BY: J. JOHNSON
CHECKED BY: K. WHITE
PROJECT MANAGER: R. ELDER

C-500



TYPICAL ROADWAY CROSS SECTIONS

CEDAR HILLS STANDARD DRAWING NO. 201A

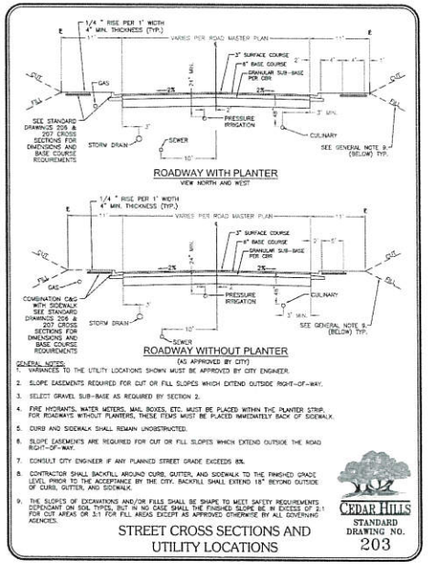


BACK OF CURB RADII FOR VARIOUS STREET INTERSECTIONS

		RIGHT-OF-WAY WIDTH				
		66	74	66	74	74
WIDTH	44	20	24	24	30	
	56	24	24	30	30	
ROW	66	24	30	30	35	
	74	30	30	35	35	

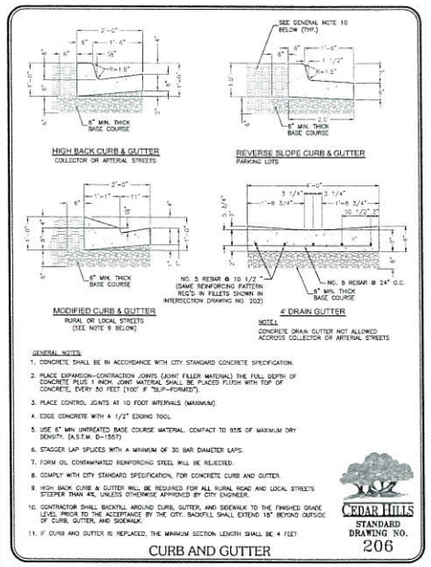
STANDARD STREET INTERSECTION AND UTILITY LOCATION

CEDAR HILLS STANDARD DRAWING NO. 202



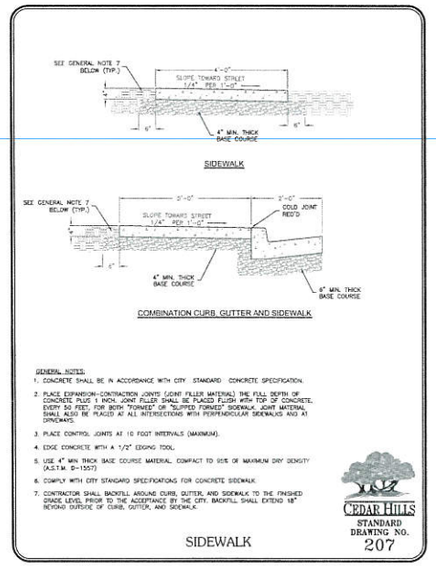
STREET CROSS SECTIONS AND UTILITY LOCATIONS

CEDAR HILLS STANDARD DRAWING NO. 203



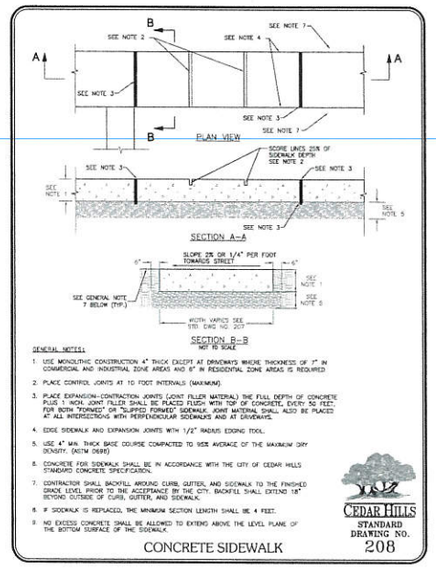
CURB AND GUTTER

CEDAR HILLS STANDARD DRAWING NO. 206



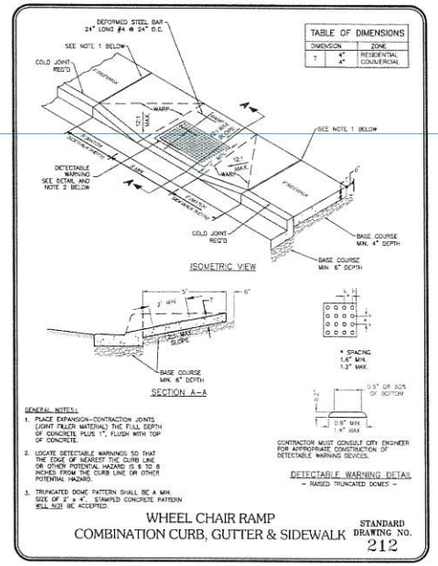
SIDEWALK

CEDAR HILLS STANDARD DRAWING NO. 207



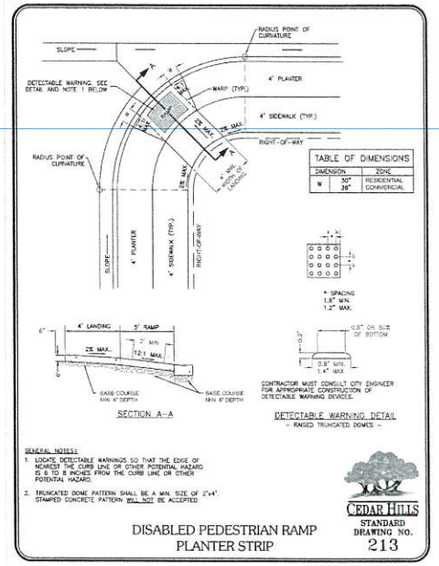
CONCRETE SIDEWALK

CEDAR HILLS STANDARD DRAWING NO. 208



WHEEL CHAIR RAMP
COMBINATION CURB, GUTTER & SIDEWALK

STANDARD DRAWING NO. 212



DISABLED PEDESTRIAN RAMP
PLANTER STRIP

CEDAR HILLS STANDARD DRAWING NO. 213

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TAYLORSVILLE UTAH 84123
CONTACT:
DOUG YOUNG
PHONE: 801-205-8500

ROSEGATE AT CEDAR HILLS SENIOR LIVING FACILITY

4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

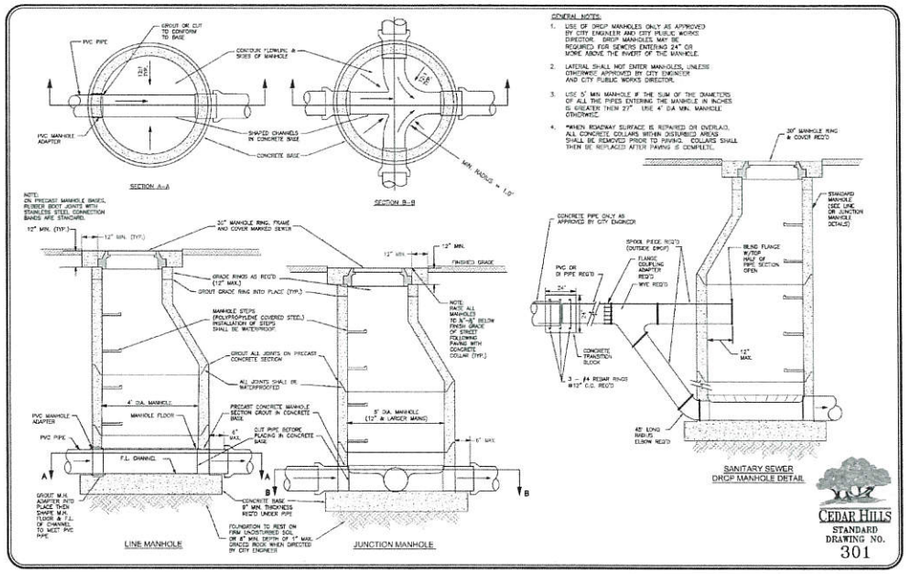
No. 169379
ROBERT Q. ELDER
8-3-15
STATE OF UTAH

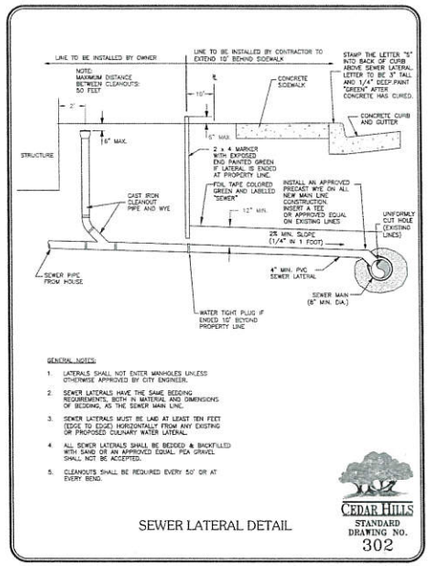
NO.	DATE	REVISION	BY
1			
2			
3			
4			
5			
6			

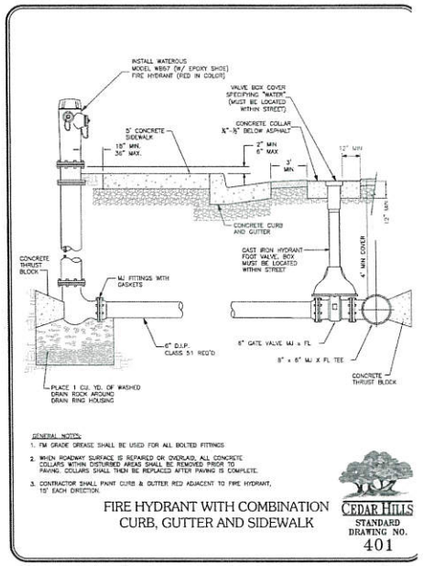
DETAIL SHEET

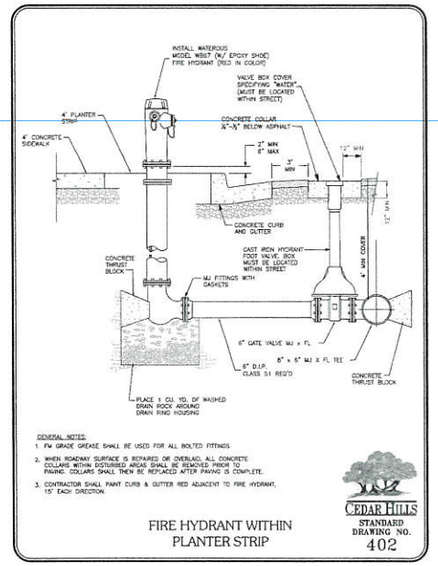
PROJECT NUMBER: 6001
PRINT DATE: 8/3/15
DRAWN BY: J. JOHNSON
CHECKED BY: K. WHITE
PROJECT MANAGER: R. ELDER

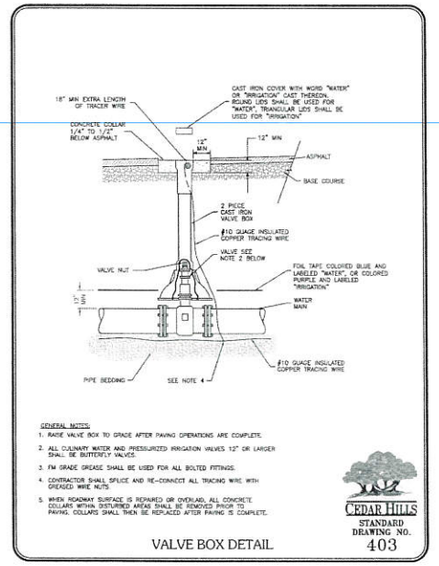
C-501

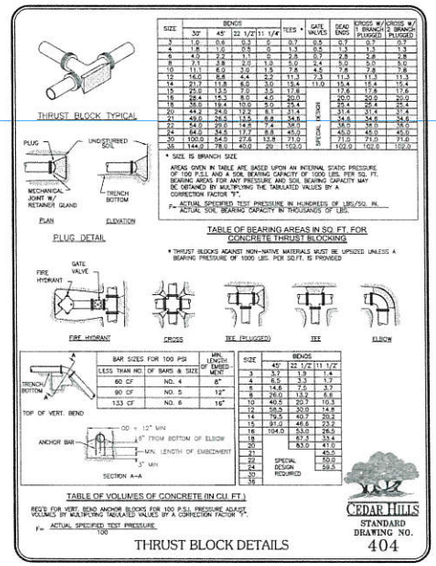


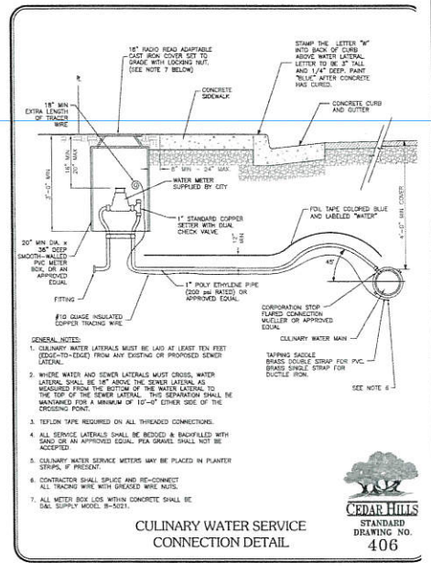












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CONTACT:
DOUG YOUNG
PHONE: 801-205-0500

ROSEGATE AT CEDAR HILLS SENIOR LIVING FACILITY

4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

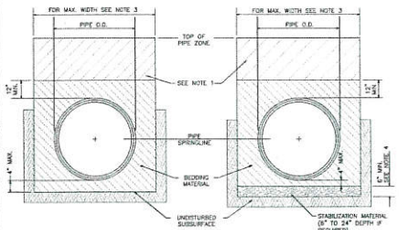
LICENSED PROFESSIONAL ENGINEER
No. 159879
ROBERT Q. ELDER
8-3-15
STATE OF UTAH

NO.	DATE	REVISION	BY
1			
2			
3			
4			
5			

DETAIL SHEET

PROJECT NUMBER: 1001
PRINT DATE: 8-3-15
DRAWN BY: J. JOHNSON
CHECKED BY: K. WHITE
PROJECT MANAGER: R. ELDER

C-502



GENERAL NOTES:

1. PLACE BACKFILL IN PIPE ZONE AT OPTIMUM MOISTURE IN HORIZONTAL 12" DEEP LOOSE LAYERS. COMPACT TO A 95% STANDARD PROCTOR DRY DENSITY (ASTM D-698).
2. "O.D." MEANS OUTSIDE DIAMETER OF PIPE BARREL. "I.D." MEANS INSIDE DIAMETER OF PIPE BARREL.
3. MAXIMUM WIDTH OF TRENCH MEASURED AT THE TOP OF THE PIPE, INCLUDING ANY NECESSARY SHEATHING IS AS FOLLOWS:

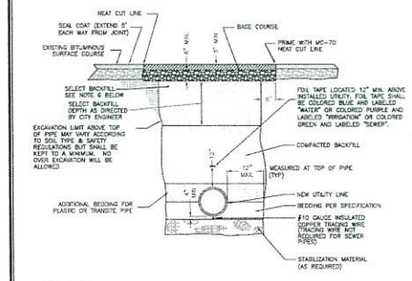
PIPE I.D.	MAX. TRENCH WIDTH
LESS THAN 33"	O.D. + 24"
GREATER THAN 33"	O.D. + 30"

CHANGES IN MAXIMUM WIDTHS ONLY AS APPROVED BY THE CITY ENGINEER.

4. FOR FOUNDATION STABILIZATION USE STABILIZATION MATERIAL CONFORMING TO CITY OF CEDAR HILLS SPECIFICATIONS. DEPTH AS REQUIRED AND APPROVED BY THE CITY ENGINEER.
5. BEDDING MATERIAL AND MODIFIED BEDDING MATERIALS SHALL CONFORM TO CITY OF CEDAR HILLS SPECIFICATIONS COVERING THESE MATERIALS.
6. PEA GRAVEL SHALL NOT BE ACCEPTED AS A BEDDING OR BACKFILL MATERIAL.

CEDAR HILLS STANDARD DRAWING NO. 501

PIPE BEDDING

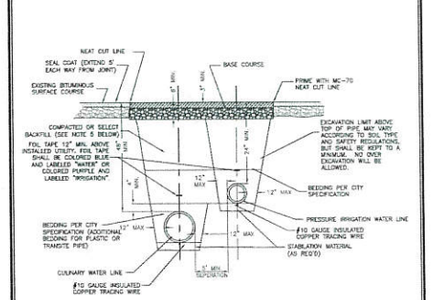


GENERAL NOTES:

1. FOR PARALLEL PIPES (CULINARY AND IRRIGATION) THE DISTANCES MINIMUM BETWEEN PIPES SHALL BE 5'-0" HORIZONTAL AND 4" VERTICAL. (IRRIGATION LINE ON TOP) SEE STANDARD DRAWING NO 503
2. PIPE SHALL BE "BLUE" FOR CULINARY WATER, "PURPLE" FOR PRESSURIZED IRRIGATION, AND "WHITE" OR "GREEN" FOR SEWER.
3. NO PRESSURIZED UTILITIES INSTALLED PARALLEL TO ANOTHER PRESSURIZED UTILITY MAY BE INSTALLED CLOSER THAN 3' (EDGE TO EDGE) TO SAID UTILITY.
4. NO CULINARY WATER/PRESSURIZED IRRIGATION CROSS-CONNECTIONS SHALL BE ALLOWED.
5. ALL PRESSURIZED IRRIGATION LINES SHALL BE "LAID TO GRADE" IN ORDER TO DRAIN P.I. LINES WHEN NOT IN USE.
6. IN THE EVENT THE NATIVE EXCAVATED MATERIAL IS NOT SATISFACTORY FOR BACKFILLING AS DETERMINED BY THE CITY ENGINEER OR THE PUBLIC WORKS DEPARTMENT, THE CONTRACTOR SHALL PROVIDE AN IMPORTED GRANULAR MATERIAL TO MEET THE SPECIFICATIONS OUTLINED IN SECTION 7.12 OF THE CITY OF CEDAR HILLS DESIGN STANDARDS AND PUBLIC IMPROVEMENTS SPECIFICATIONS.
7. PEA GRAVEL SHALL NOT BE ACCEPTED AS A BEDDING OR BACKFILL MATERIAL.
8. ALL CONCRETE COLLARS WITHIN DISTURBED AREAS SHALL BE REMOVED PRIOR TO PAVING. COLLARS SHALL THEN BE REPLACED AFTER PAVING IS COMPLETE.

CEDAR HILLS STANDARD DRAWING NO. 502

UTILITY INSTALLATION AND ROAD REPAIR

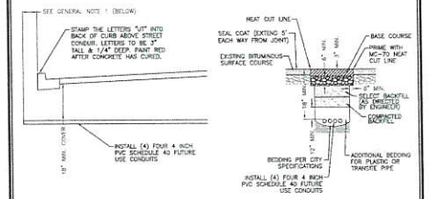


GENERAL NOTES:

1. PIPE SHALL BE "BLUE" FOR CULINARY WATER, AND "PURPLE" FOR PRESSURIZED IRRIGATION.
2. NO PRESSURIZED UTILITIES INSTALLED PARALLEL TO ANOTHER PRESSURIZED UTILITY MAY BE INSTALLED CLOSER THAN 5' (EDGE TO EDGE) TO SAID UTILITY.
3. NO CULINARY WATER/PRESSURIZED IRRIGATION CROSS-CONNECTIONS SHALL BE ALLOWED.
4. ALL PRESSURIZED IRRIGATION LINES SHALL BE "LAID TO GRADE" IN ORDER TO DRAIN P.I. LINES WHEN NOT IN USE.
5. IN THE EVENT THE NATIVE EXCAVATED MATERIAL IS NOT SATISFACTORY FOR BACKFILLING AS DETERMINED BY THE CITY ENGINEER OR THE PUBLIC WORKS DEPARTMENT, THE CONTRACTOR SHALL PROVIDE AN IMPORTED GRANULAR MATERIAL TO MEET THE SPECIFICATIONS OUTLINED IN SECTION 7.12 OF THE CITY OF CEDAR HILLS DESIGN STANDARDS AND PUBLIC IMPROVEMENTS SPECIFICATIONS.
6. PEA GRAVEL SHALL NOT BE ACCEPTED AS A BEDDING OR BACKFILL MATERIAL.
7. ALL CONCRETE COLLARS WITHIN DISTURBED AREAS SHALL BE REMOVED PRIOR TO PAVING. COLLARS SHALL THEN BE REPLACED AFTER PAVING IS COMPLETE.

CEDAR HILLS STANDARD DRAWING NO. 503

TYPICAL DUAL PIPE INSTALLATION (IRR. & CUL.)

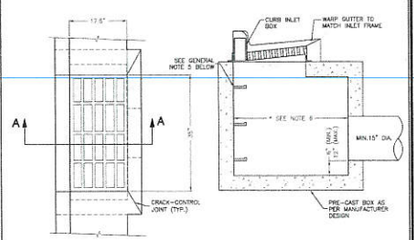


GENERAL NOTES:

1. CONDUIT TO EXTEND A MINIMUM OF 2' BEHIND THE CURB IF A PLANTER STRIP IS PRESENT OR 2' BEHIND THE SIDEWALK IN THE CASE OF A COMBINATION CURB, GUTTER, AND SIDEWALK.
2. PEA GRAVEL SHALL NOT BE ACCEPTED AS A BEDDING OR BACKFILL MATERIAL.

CEDAR HILLS STANDARD DRAWING NO. 504

TYPICAL FUTURE-USE STREET CONDUIT

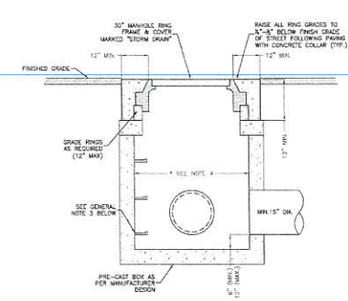


GENERAL NOTES:

1. ALL FRAMES & GRATES TO BE GALVANIZED STEEL OR CAST IRON.
2. CONSTRUCT BOX (WALL THICKNESS) TO MATCH EXISTING OR NEW TYPE OF CURB AS SHOWN.
3. CURB FACE INLET BOX CAN BE UTILIZED AS APPROVED BY CITY.
4. ALL GRATES TO BE BICYCLE SAFE.
5. STEPS ARE REQUIRED IN ALL STORM DRAIN BOXES & MANHOLES DEEPER THAN 5 FEET.
6. 2' MIN. (3' MIN. IF DEEPER THAN 5').

CEDAR HILLS STANDARD DRAWING NO. 505

STORM DRAIN CATCH BASIN



GENERAL NOTES:

1. ALL FRAMES & GRATES TO BE GALVANIZED STEEL OR CAST IRON.
2. CONSTRUCT BOX, FRAME & GRATE TO SUPPORT AN H-20 LOADING.
3. STEPS ARE REQUIRED IN ALL STORM DRAIN BOXES & MANHOLES DEEPER THAN 5 FEET.
4. 2' MIN. (3' MIN. IF DEEPER THAN 5').

CEDAR HILLS STANDARD DRAWING NO. 506

STORM DRAIN COLLECTION BOX

ENSIGN
THE STANDARD IN ENGINEERING

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RICHFIELD
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FOR
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8150 SOUTH REDWOOD RD, STE. 150
TAYLORSVILLE, UTAH 84123

CONTACT
DOUG YOUNG
PHONE: 801-205-5900

ROSEGATE AT CEDAR HILLS
SENIOR LIVING FACILITY
4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

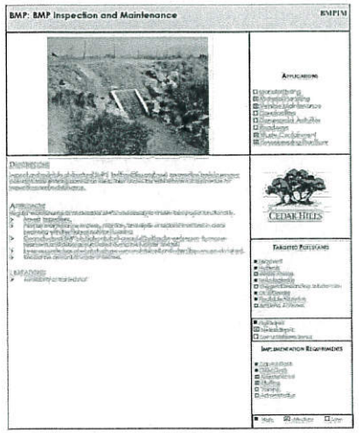
LICENSED PROFESSIONAL ENGINEER No. 169379 ROBERT Q. ELDER 8-3-15 STATE OF UTAH

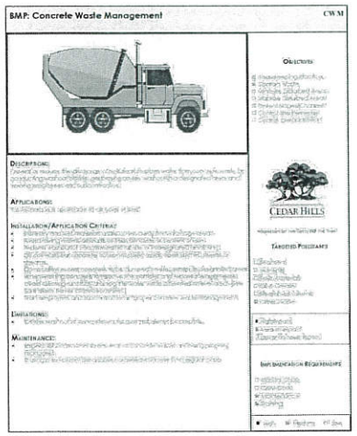
NO.	DATE	REVISION	BY
1			
2			
3			
4			
5			
6			
7			
8			

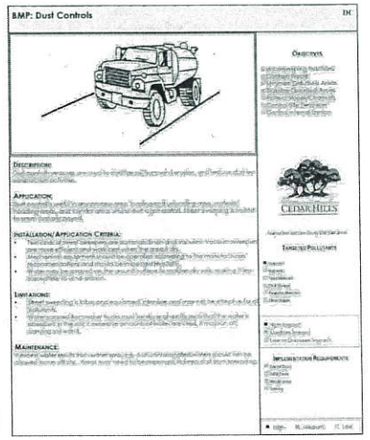
DETAIL SHEET

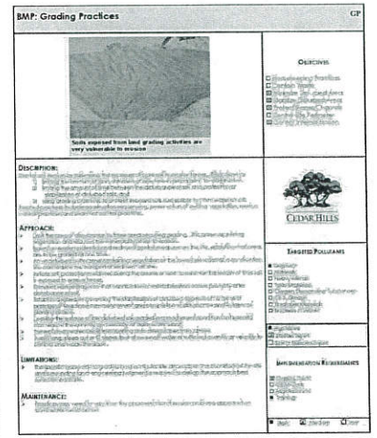
PROJECT NUMBER: 6001
PRINT DATE: 8/3/15
DRAWN BY: J. JOHNSON
CHECKED BY: K. WHITE
PROJECT MANAGER: R. ELDER

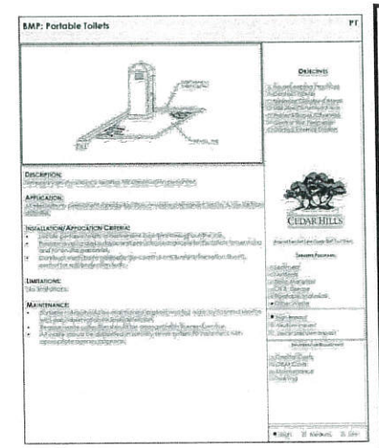
C-503

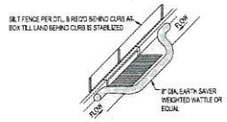




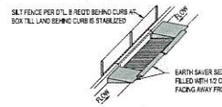








WATTLE OPTION

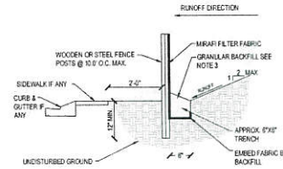


SANDBAG OPTION

NOTES:

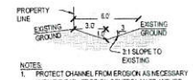
1. PLACE WATTLES OR GRAVEL BAGS TIGHT AGAINST CURB TO PREVENT SEDIMENT-LADEN WATER FROM GETTING BETWEEN CURB AND WATTLE/BAG.
2. PLACE WATTLES OR GRAVEL BAGS SUCH THAT FLOW DOES NOT OVERTOP CURB OR ROAD CENTERLINE.
3. INSPECT INLET PROTECTION AFTER EVERY LARGE STORM EVENT AND AT LEAST BI-WEEKLY, OR PER SWPPP REQUIREMENTS, WHICHEVER IS MORE STRINGENT, TO ENSURE THAT SEDIMENT CONTROL IS MEETING ITS DESIGN INTENT. MAINTAIN AND/OR REPLACE AS NEEDED.
4. REMOVE SEDIMENT ACCUMULATED WHEN IT REACHES 50% OF GRAVEL BAG OR WATTLE HEIGHT.
5. CONTRACTOR MAY SUBMIT AN ALTERNATIVE METHOD OF INLET PROTECTION. THE ALTERNATIVE METHOD SHALL BE APPROVED BY THE CITY INSPECTOR AND THE ENGINEER OF RECORD.
6. BEFORE PLACEMENT OF CURB, STABILIZATION OF LAND BEHIND CURB, AND/OR PAVING, MAINTAIN TOP OF INLET AT 6" ABOVE GRADE, AND BAYMOUND WITH SILT FENCE FOR SEDIMENTATION AROUND BOX. MAINTAIN SILT FENCE BEHIND BOX UNTIL LAND BEHIND CURB IS STABILIZED.

A — SAG INLET PROTECTION
SCALE: NONE



B — TEMPORARY SILT FENCE
SCALE: NONE

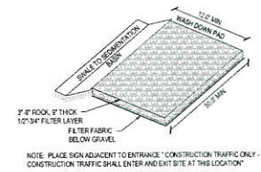
1. EXCAVATE 6" X 6" TRENCH ALONG LIMITS OF DISTURBANCE AS SHOWN ON CONSTRUCTION DRAWINGS.
2. POSTS SHALL BE POSITIONED DOWNSTREAM SIDE OF FENCE.
3. LAY TOE-IN FABRIC FLAP IN BOTTOM OF TRENCH. BACKFILL TRENCH WITH FREE DRAINING GRANULAR MATERIAL. COMPACT TRENCH TO SATISFACTION OF THE ENGINEER OF RECORD.
4. SILT FENCE GEOTEXTILE SHALL MEET AASHTO M288-92 REQUIREMENTS.
5. REMOVE & DISPOSE OF SEDIMENT WHEN ACCUMULATION IS 50% OF EXPOSED FENCE HEIGHT.
6. 10' MAX. SPACING BETWEEN STAKES.
7. SILT FENCES SHALL BE INSTALLED ALONG CONTOURS. NOT UP AND DOWN SLOPES, WITH 10' OVERLAP AT BREAKS.



NOTES:

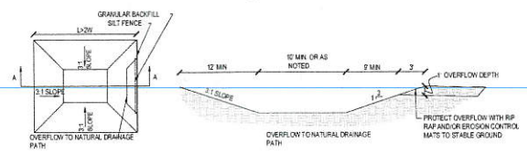
1. PROTECT CHANNEL FROM EROSION AS NECESSARY WITH RIP RAP, EROSION CONTROL MATS AND / OR ROCK CHECK DAMS
2. SEDIMENT TRAPS REQUIRED AT 200' SPACING OR AS SHOWN ON PLANS, WHICHEVER IS MORE STRINGENT.
3. FOR SWALES STEEPER THAN 5%, STABILIZE SWALES WITH RIP RAP LINING IN SWALE AND ROCK CHECK DAMS SPACED AT EVERY THREE FEET OF DROP IN FLOWLINE.

C — DRAINAGE SWALE
SCALE: NONE



NOTE: PLACE SIGN ADJACENT TO ENTRANCE "CONSTRUCTION TRAFFIC ONLY - ALL CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT SITE AT THIS LOCATION"

D — TEMPORARY VEHICLE WASHDOWN & STABILIZED CONSTRUCTION ENTRANCE
SCALE: NONE



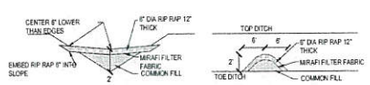
PLAN VIEW

A-A SECTION

NOTES:

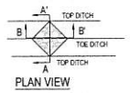
1. CLEAN OUT BASIN WHEN CAPACITY IS REDUCED BY HALF.
2. SIZE BASIN PER MINIMUM DIMENSIONS SHOWN, AND PER DIMENSIONS IN PLAN, WHICHEVER IS GREATER.
3. SAFETY FENCING IS REQUIRED FOR DEPTH GREATER THAN THREE FEET.
4. WHERE 2:1 RATIO OF LENGTH TO WIDTH IS NOT AVAILABLE, CONSTRUCT BERM(S) FOR BAFFLE(S) BETWEEN INLET AND OUTLET TO ACHIEVE 2:1 FLOW LENGTH RATIO.
5. WHERE TEMPORARY SEDIMENTATION WILL BE CONVERTED TO A PERMANENT DETENTION POND, PROTECT OUTLET PER DTL. L TEMPORARY BASIN OUTLET PROTECTION.

E — TEMPORARY SEDIMENTATION BASIN
SCALE: NONE



A-A' SECTION

B-B' SECTION

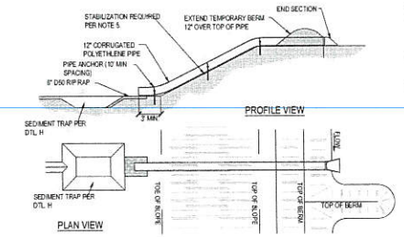


PLAN VIEW

NOTES:

1. PLACE CHECK DAMS PERPENDICULAR TO FLOW DIRECTION
2. DO NOT PLACE DAMS ACROSS NATURAL STREAM BEDS
3. CONSTRUCT CHECK DAMS SO THAT WATER DOES NOT FLOW AROUND THE ENDS OF THE DAM.
4. REMOVE ACCUMULATED SEDIMENT WHEN DEPTH REACHES 1 FOOT.

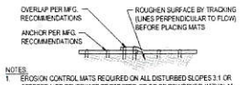
F — ROCK CHECK DAM
SCALE: NONE



NOTES:

1. COMPACT SOIL SURFACE AND BERMS AT ENTRANCE TO PIPE END SECTION TO PREVENT UNDERMINING OF PIPE AND EROSION OF SLOPE. REPAIR ANY EROSION IMMEDIATELY.
2. ANCHOR PIPE EVERY 10' TO PREVENT MOVEMENT OF PIPE AND FAILURE OF DRAIN IN STORM EVENT.
3. USE WATER TIGHT FITTINGS AT ALL DRAIN CONNECTIONS
4. MAINTAIN PROPERLY FUNCTIONING SLOPE DRAINS UNTIL SLOPES HAVE BEEN PERMANENTLY STABILIZED, OR UNTIL PERMANENT SURFACE IMPROVEMENTS AND STORM DRAIN FACILITIES REPLACE THE NEED FOR TEMPORARY SLOPE DRAINS.
5. STABILIZE SLOPES NOT TO BE REWORKED WITHIN 14 DAYS OF ACHIEVEMENT OF GRADE. FOR SLOPES BETWEEN 10:1 AND 3:1, TRACKING AND MULCHING IS REQUIRED. FOR SLOPES STEEPER THAN 3:1, TRACKING AND EROSION CONTROL MATS ARE REQUIRED.

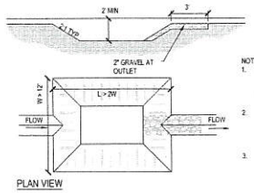
G — SLOPE DRAIN
SCALE: NONE



NOTES:

1. EROSION CONTROL MATS REQUIRED ON ALL DISTURBED SLOPES 3:1 OR STEEPER NOT OTHERWISE PROTECTED OR TO BE REWORKED WITHIN 14 DAYS OF CESSATION OF WORK ON SLOPE.
2. LAY OUT MATS WITH SEAMS RUNNING UP AND DOWN SLOPE AND NOT ALONG GRADE, EXCEPT IN CHANNELS OR SWALES LESS THAN 10' WIDE.

J — EROSION CONTROL MAT
SCALE: NONE

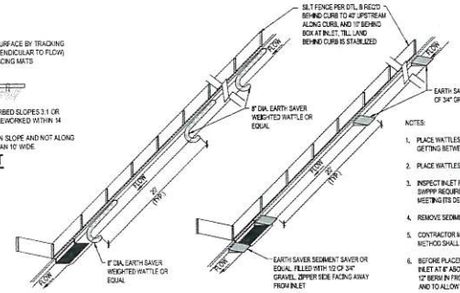


PLAN VIEW

NOTES:

1. PLACE SEDIMENT TRAPS AT LOCATIONS SHOWN ON PLANS, AND WHEREVER APPROPRIATE TO INTERCEPT SEDIMENT-LADEN FLOW ON SITE.
2. MAINTAIN PROPER FUNCTION OF SEDIMENT TRAP UNTIL DISTURBED AREAS CONTRIBUTING TO BASIN HAVE BEEN PAVED OR REVEGETATED.
3. REMOVE ACCUMULATED SEDIMENT WHEN CAPACITY IS DEGREASED BY HALF.

H — SEDIMENT TRAP
SCALE: NONE



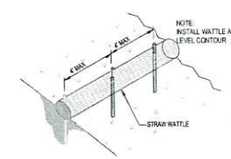
WATTLE OPTION

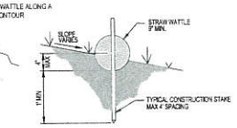
SANDBAG OPTION

NOTES:

1. PLACE WATTLES OR GRAVEL BAGS TIGHT AGAINST CURB TO PREVENT SEDIMENT-LADEN WATER FROM GETTING BETWEEN CURB AND WATTLE/BAG.
2. PLACE WATTLES OR GRAVEL BAGS SUCH THAT FLOW DOES NOT OVERTOP CURB OR ROAD CENTERLINE.
3. INSPECT INLET PROTECTION AFTER EVERY LARGE STORM EVENT AND AT LEAST BI-WEEKLY, OR PER SWPPP REQUIREMENTS, WHICHEVER IS MORE STRINGENT, TO ENSURE THAT SEDIMENT CONTROL IS MEETING ITS DESIGN INTENT. MAINTAIN AND/OR REPLACE AS NEEDED.
4. REMOVE SEDIMENT ACCUMULATED WHEN IT REACHES 50% OF GRAVEL BAG OR WATTLE HEIGHT.
5. CONTRACTOR MAY SUBMIT AN ALTERNATIVE METHOD OF INLET PROTECTION. THE ALTERNATIVE METHOD SHALL BE APPROVED BY THE CITY INSPECTOR AND THE ENGINEER OF RECORD.
6. BEFORE PLACEMENT OF CURB, STABILIZATION OF LAND BEHIND CURB, AND PAVING, MAINTAIN TOP OF INLET AT 6" ABOVE GRADE. PLACE SILT FENCE BEHIND CURB AS SHOWN, AND CONSTRUCT TEMPORARY 12" BERM IN FRONT OF INLET TO INTERCEPT SEDIMENT-LADEN WATER BEFORE IT FLOWS DOWNSTREAM AND TO ALLOW FOR SEDIMENTATION BEFORE FLOW ENTERS INLET BOX.

K — IN-LINE INLET PROTECTION
SCALE: NONE





FOR EROSION CONTROL ON A DISTURBED SLOPE, USE THE FOLLOWING SPACING:

1:1 SLOPES = 10' APART
2:1 SLOPES = 20' APART
3:1 SLOPES = 30' APART
ETC.

N — STRAW WATTLES
SCALE: NONE

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CONTACT:
DOUG YOUNG
PHONE: 801-255-5500

ROSEGATE AT CEDAR HILLS SENIOR LIVING FACILITY

4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

NO.	DATE	REVISION	BY
1			
2			
3			
4			
5			
6			

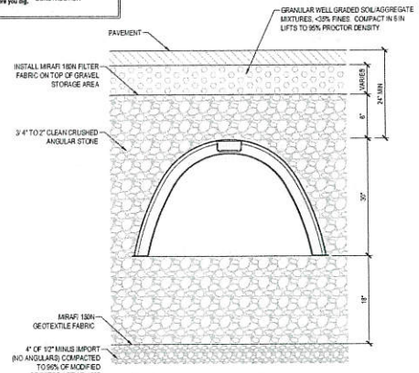
DETAIL SHEET

PROJECT NUMBER: 6001
PRINT DATE: 8/3/15
DRAWN BY: J. JOHNSON
CHECKED BY: K. WHITE
PROJECT MANAGER: R. ELDER

C-504

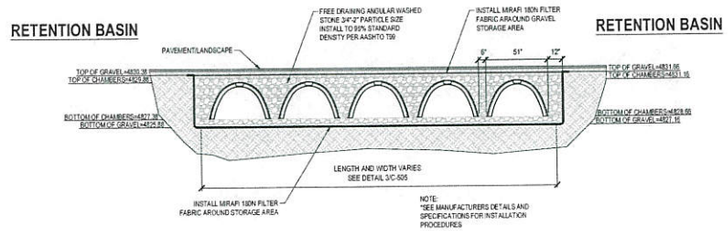
CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION

Know what's below. Call before you dig.



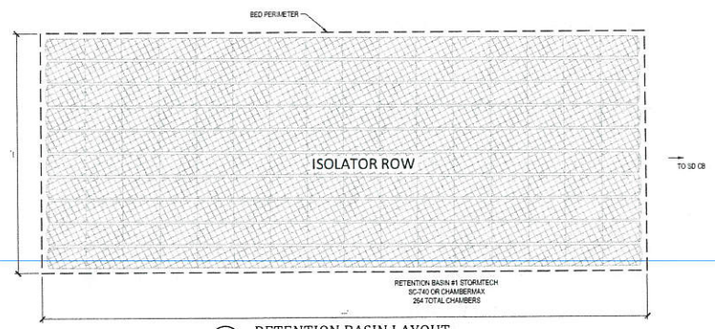
1 LINER SECTION DETAIL

Scale: NTS



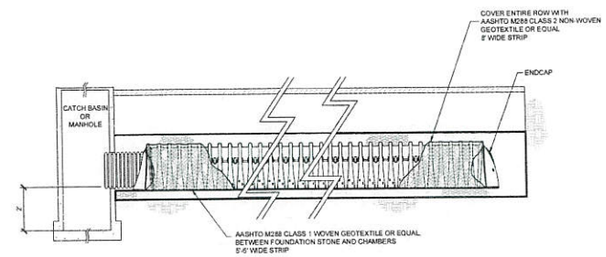
2 RETENTION BASIN SECTION

Scale: NTS



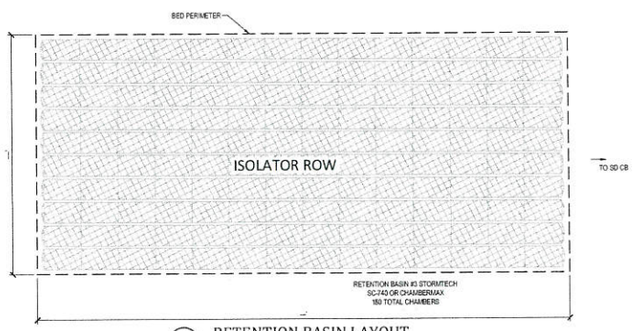
3 RETENTION BASIN LAYOUT

Scale: NTS



4 TREATMENT ROW DETAILS

Scale: NTS



5 RETENTION BASIN LAYOUT

Scale: NTS

ENSIGN
THE STANDARD IN ENGINEERING

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CONTACT:
DOUG YOUNG
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ROSEGATE AT CEDAR HILLS SENIOR LIVING FACILITY

4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

No. 169379
ROBERT Q. ELDER
8-3-15
STATE OF UTAH

NO.	DATE	REVISION FOR REVIEW	BY
1			
2			
3			
4			
5			
6			
7			
8			

DETAIL SHEET

PROJECT NUMBER: 8001
PRINT DATE: 8/3/15
DRAWN BY: J. JOHNSON
CHECKED BY: K. WHITE
PROJECT MANAGER: R. ELDER

C-505

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION

Know what's below. Call before you dig.

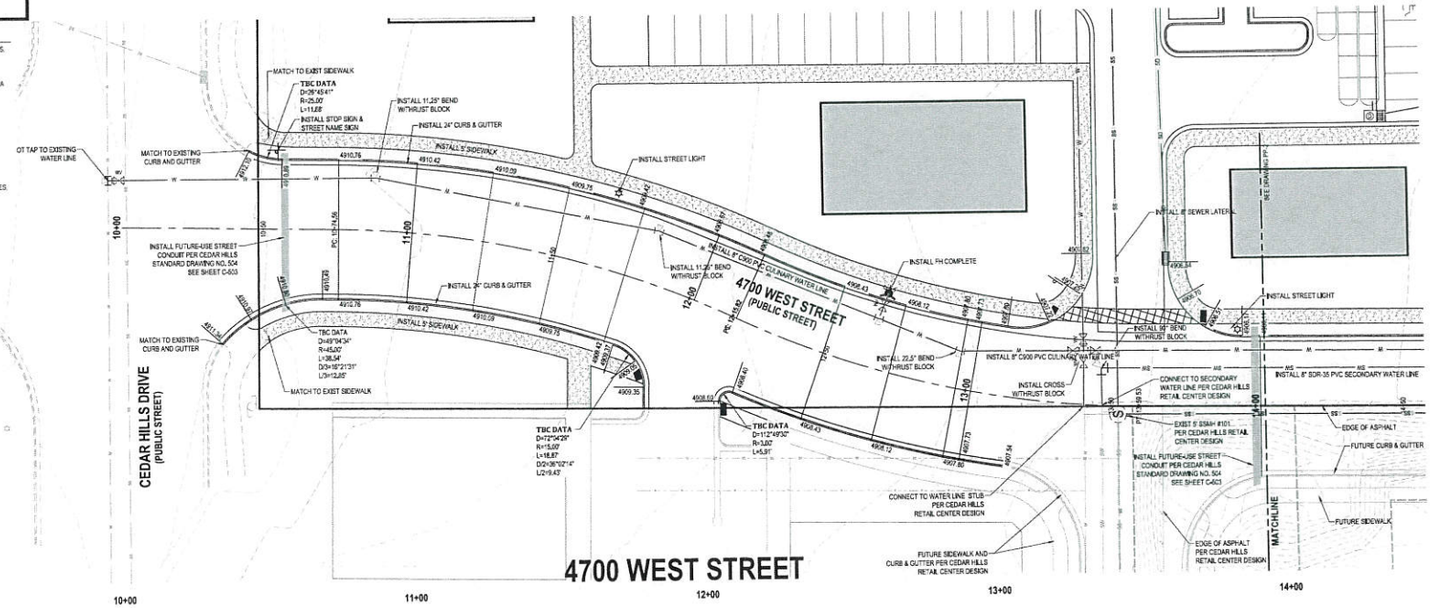
BENCHMARK

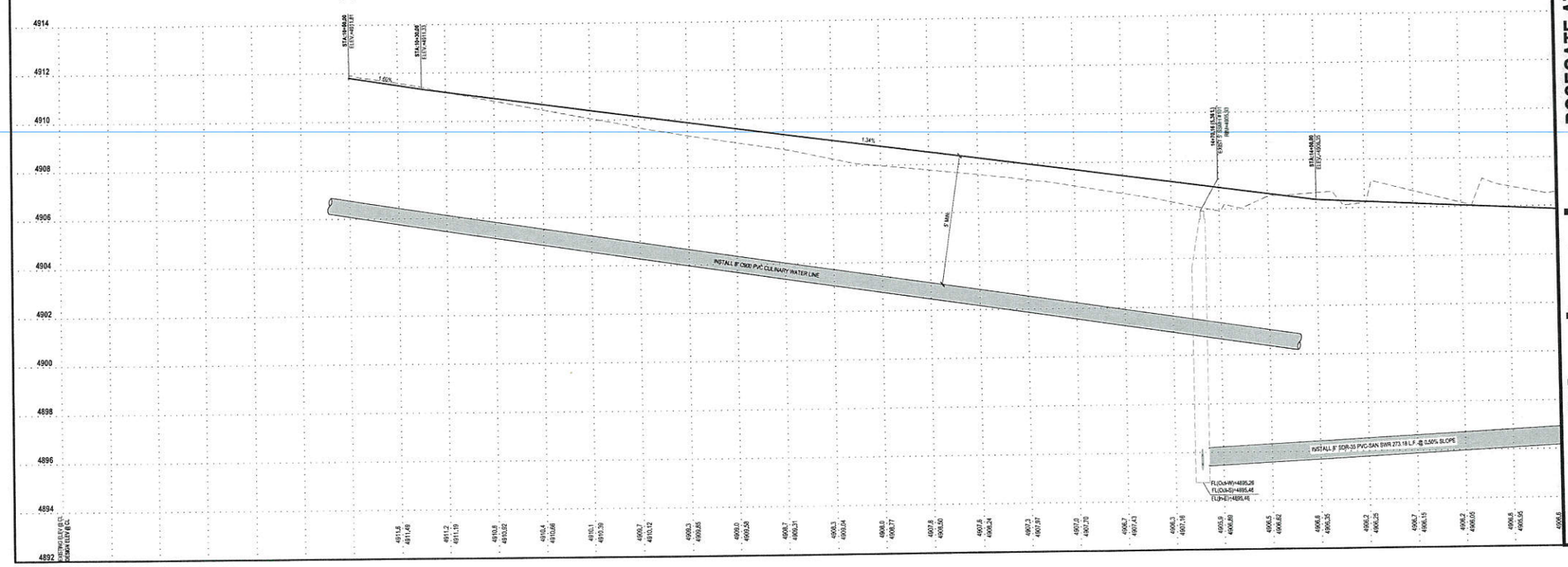
NORTHWEST CORNER OF SECTION 6 TOWNSHIP 5 SOUTH, RANGE 2 EAST SALT LAKE BASE & MERIDIAN

ELEVATION = 4901.33

GENERAL NOTES

1. ALL WORK TO COMPLY WITH THE GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
2. ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS AND RECOMMENDATIONS.
3. ALL STORM DRAIN INFRASTRUCTURE TO BE INSTALLED PER GOVERNING AGNECY OR APWA STANDARD PLANS AND SPECIFICATIONS.
4. ALL SANITARY SEWER INFRASTRUCTURE TO BE INSTALLED PER GOVERNING AGENCY STANDARD PLANS AND SPECIFICATIONS.
5. ALL WATER INFRASTRUCTURE TO BE INSTALLED PER GOVERNING AGENCY OR APWA STANDARD PLANS AND SPECIFICATIONS.
6. NOTIFY ENGINEER OF ANY DISCREPANCIES IN DESIGN OR STAKING BEFORE PLACING CONCRETE, ASPHALT, UTILITY STRUCTURES OR PIPES.
7. THE CONTRACTOR IS TO PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, AND SIGNS, ETC. UNLESS OTHERWISE NOTED ON THESE PLANS.





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8-3-15
STATE OF UTAH

4700 WEST STREET PLAN AND PROFILE

PROJECT NUMBER 6001	PRINT DATE 8/3/15
DRAWN BY J. JOHNSON	CHECKED BY K. WHITE
PROJECT MANAGER R. ELDER	

PP-1

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION

Know what's below. Call before you dig.

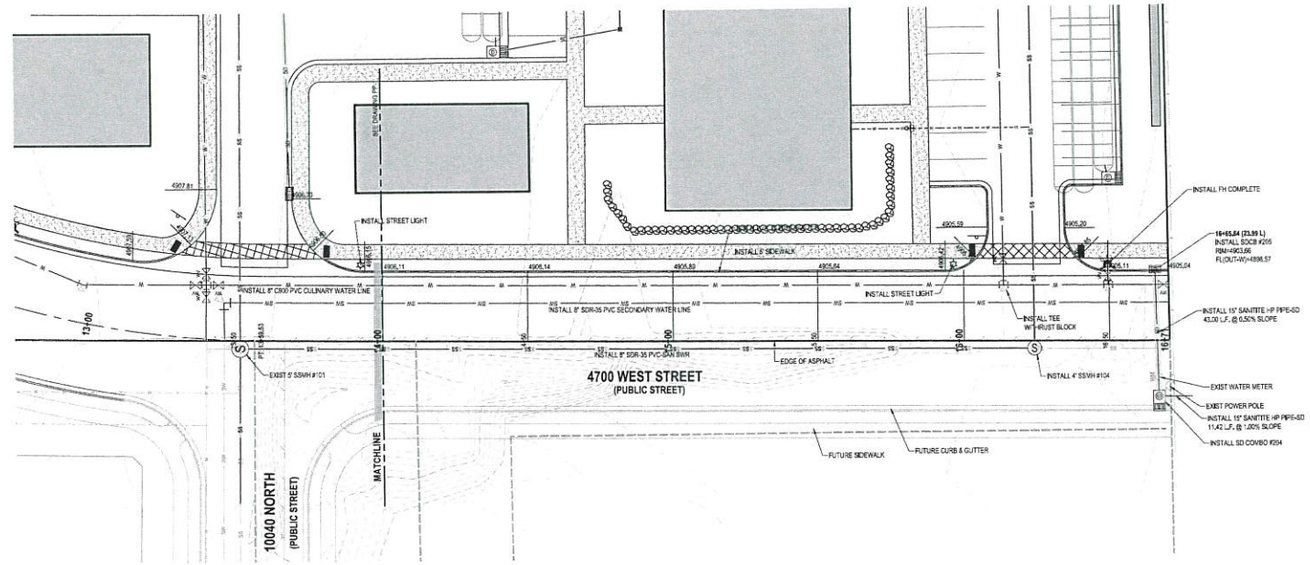
BENCHMARK

NORTHWEST CORNER OF SECTION 6
TOWNSHIP 5 SOUTH, RANGE 2 EAST
SALT LAKE BASE & MERIDIAN

ELEVATION = 4903.33

GENERAL NOTES

1. ALL WORK TO COMPLY WITH THE GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
2. ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS AND RECOMMENDATIONS.
3. ALL STORM DRAIN INFRASTRUCTURE TO BE INSTALLED PER GOVERNING AGNECY OR APWA STANDARD PLANS AND SPECIFICATIONS.
4. ALL SANITARY SEWER INFRASTRUCTURE TO BE INSTALLED PER GOVERNING AGENCY STANDARD PLANS AND SPECIFICATIONS.
5. ALL WATER INFRASTRUCTURE TO BE INSTALLED PER GOVERNING AGENCY OR APWA STANDARD PLANS AND SPECIFICATIONS.
6. NOTIFY ENGINEER OF ANY DISCREPANCIES IN DESIGN OR STAKING BEFORE PLACING CONCRETE, ASPHALT, UTILITY STRUCTURES OR PIPES.
7. THE CONTRACTOR IS TO PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, AND SIGNS, ETC. UNLESS OTHERWISE NOTED ON THESE PLANS.

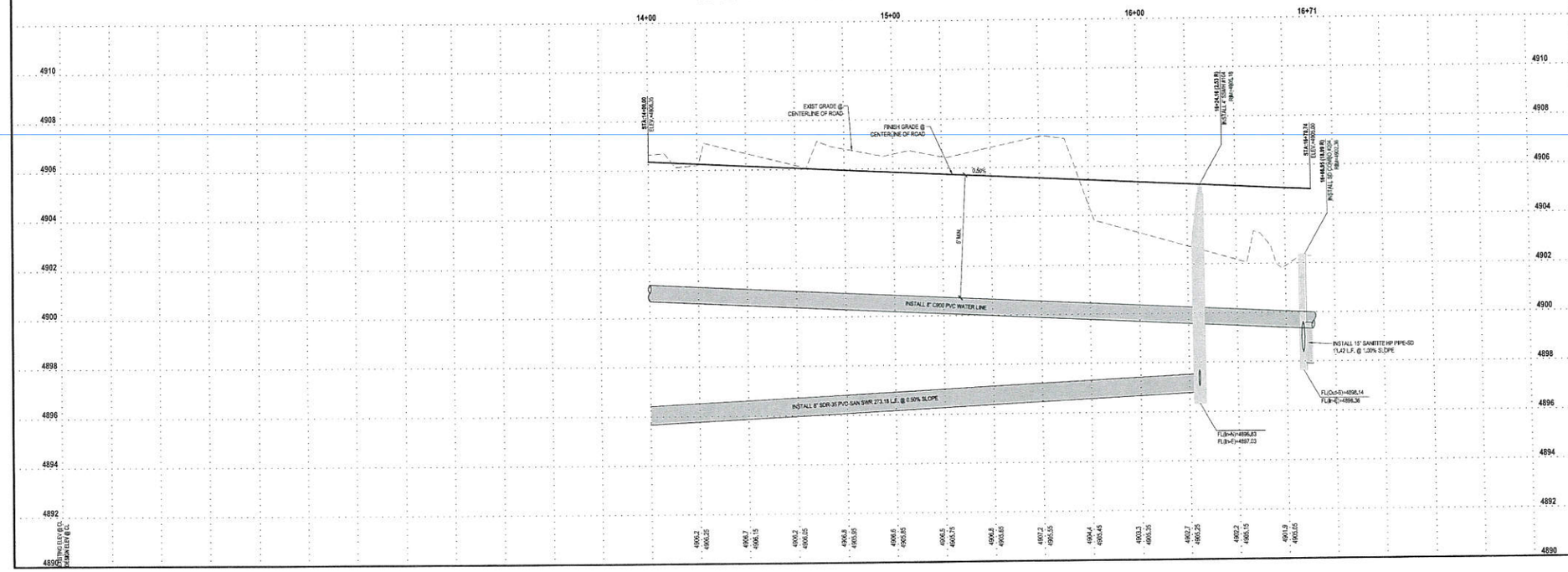


HORIZONTAL GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
HORZ: 1 inch = 20 ft.
VERT: 1 inch = 2 ft.

4700 WEST STREET



ENSIGN
THE STANDARD IN ENGINEERING

SALT LAKE CITY
45 W. 10000 S., Suite 500
Sandy, UT 84070
Phone: 801.255.0529

LAYTON
Phone: 801.547.1100

TOOELE
Phone: 435.843.3590

CEDAR CITY
Phone: 435.865.1453

RICHFIELD
Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
CEDAR HILLS FARM LAND, LLC
5150 SOUTH REDWOOD RD, STE. 150
TAYLORSVILLE, UTAH 84123
CONTACT:
DOUG YOUNG
PHONE: 801-205-5500

ROSEGATE AT CEDAR HILLS SENIOR LIVING FACILITY

4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

No. 189379
ROBERT Q. ELDER
8-3-15
STATE OF UTAH

4700 WEST STREET PLAN AND PROFILE

PROJECT NUMBER 8001	ISSUE DATE 8/3/15
DRAWN BY J. JOHNSON	CHECKED BY K. WHITE
PROJECT MANAGER R. ELDER	

PP-2

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

Know what's below. Call before you dig.

BENCHMARK

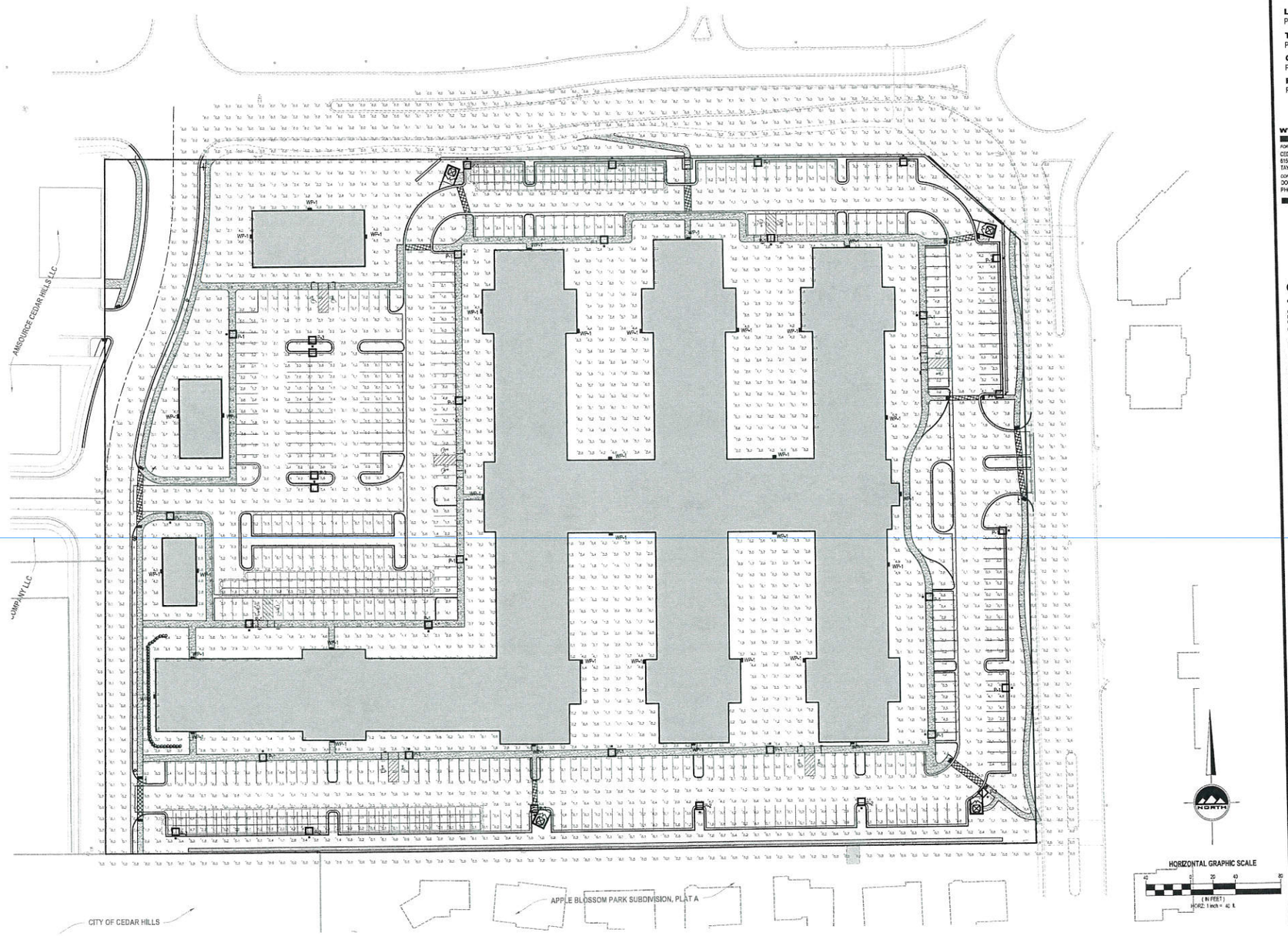
NORTHWEST CORNER OF SECTION 6
TOWNSHIP 5 SOUTH, RANGE 2 EAST
SALT LAKE BASE & MERIDIAN

ELEVATION = 4921.33'

LABEL	QUANTITY	MANUFACTURE	CATALOG NUMBER	LAMP TYPE	MT. HT.
P-1	24	LITHONIA LIGHTING	KAD LED 1 638S33/40K 5R4	108-WATT LED	25'
P-2 *	6	LITHONIA LIGHTING	KAD LED 1 638S33/40K 5R4	108-WATT LED	22'
P-3	2	LITHONIA LIGHTING	KAD LED 1 638S33/40K 5R3	115-WATT LED	25'
WP-1	35	LITHONIA LIGHTING	CSXW LED 30C 1000 40K T3M	LED	18'

MAX fc = 5.3
AVG fc = 1.3

* PROVIDE BARN-DOOR TYPE SHIELDS AS REQUIRED.



ENSIGN
THE STANDARD IN ENGINEERING

SALT LAKE CITY
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FOR:
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6150 SOUTH REDWOOD RD, STE. 150
TAYLORSVILLE, UTAH 84123
CONTACT:
DOUG YOUNG
PHONE 801-205-5500

ROSEGATE AT CEDAR HILLS SENIOR LIVING FACILITY

4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

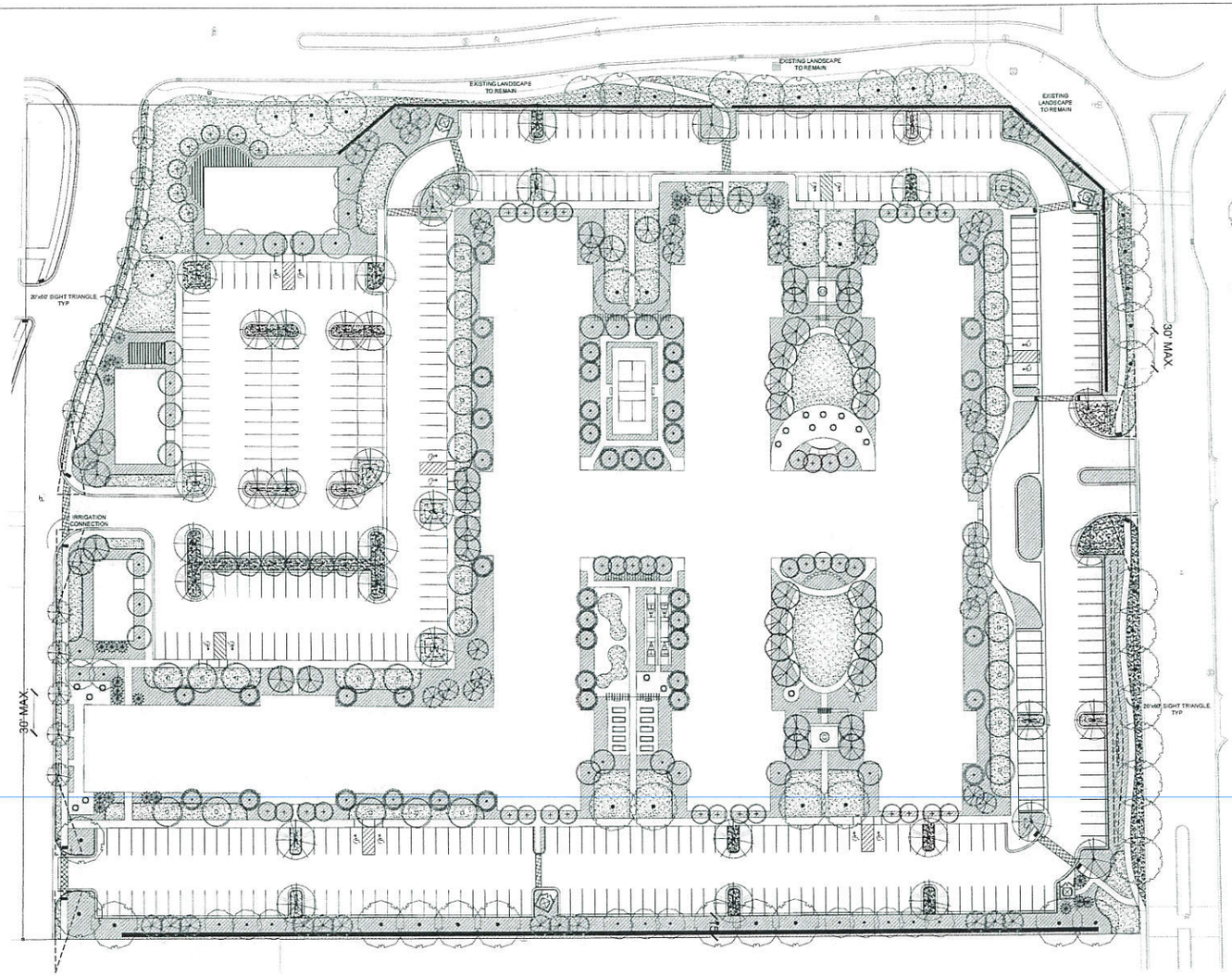
LICENSED PROFESSIONAL ENGINEER
No. 169379
ROBERT Q. ELDER
8-3-15
STATE OF UTAH

NO.	DATE	REVISION	BY
1			
2			
3			
4			
5			
6			
7			
8			

PHOTOMETRIC PLAN

PROJECT NUMBER: 8201
PRINT DATE: 8/3/15
DRAWN BY: J. JOHNSON
CHECKED BY: K. WHITE
PROJECT MANAGER: R. ELDER

E-100



PLANT_SCHEDULE

TREES	BOTANICAL NAME	COMMON NAME	CONT	CAL	QTY
	Acer platanoides `Emerald Queen`	Emerald Queen Maple	B & B	2.5"Cal	14
	Acer platanoides `Warrenred` TM	Pacific Sunset Maple	B & B	2.5"Cal	19
	Carpinus betulus `Franz Fontaine`	Franz Fontaine Hornbeam	B & B	2.5"Cal	43
	Fraxinus americana `Autumn Purple`	Autumn Purple Ash	B & B	2.5"Cal	12
	Fraxinus mandshurica `Mancana`	Mancana Ash	B & B	2.5"Cal	16
	Gleditsia triacanthos `Skyline` branched @ 7'	Skyline Honey Locust	B & B	3"Cal	37
	Malus ioensis `Prairie Rose`	Prairie Rose Crabapple	B & B	2"Cal	19
	Malus x `Prairifire`	Prairifire Crab Apple	B & B	2"Cal	31
	Malus x `Spring Snow`	Spring Snow Crab Apple	B & B	2"Cal	25
	Malus x `Tschonoskii`	Tshonoskii Crab Apple	B & B	2"Cal	45
	Platanus x acerifolia branched @ 5'	London Plane Tree	B & B	2.5"Cal	21
	Prunus serrulata `Kwanzan`	Flowering Cherry	B & B	2"Cal	13
	Prunus virginiana `Canada Red`	Canada Red Chokecherry	B & B	2"Cal	6

EVERGREEN TREES	BOTANICAL NAME	COMMON NAME	CONT	CAL	QTY
	Abies lasiocarpa	Alpine Fir	B & B	8` HT	42
	Picea pungens glauca `Baby Blue Eyes` TM	Baby Blue Eyes Colorado Blue Spruce	B & B	8` HT	29

SHRUBS	BOTANICAL NAME	COMMON NAME	CONT
	Berberis thunbergii atropurpurea nana	Crimson Pygmy Barberry	5 gal.
	Buxus koreana wintergreen	Wintergreen Boxwood	5 gal.
	Cornus serecia 'Kelseyi'	Kelsey Dwarf Dogwood	5 gal.
	Euonymus alatus compacta	Burning Bush	5 gal.
	Mahonia aquifolium'Compacta'	Compact Oregon Grape	5 gal.
	Potentilla fruticosa	Shrubby Cinquifoil	5 gal.
	Prunus glandulosa	Dwarf Flowering Almond	5 gal.
	Prunus laurocerasus 'Otto Luyken'	Otto Luyken English Laurel	5 gal.

*ADDITIONAL SHRUB TYPES AS SELECTED BY LANDSCAPE ARCHITECT

SOD/SEED	BOTANICAL NAME	COMMON NAME	CONT
	Poa pratensis	Kentucky Bluegrass	SOD

LANDSCAPE ELEMENTS

Concrete Edging (between all Lawn and Shrub areas) - 6" Cast-in-Place Concrete

Berming - 1' Contour (Max Slope 4:1 lawn areas, 3:1 shrub areas)

LANDSCAPE NOTES:

1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE LATEST AMERICAN PUBLIC WORKS ASSOCIATION (APWA) AND CEDAR HILLS CITY STANDARDS.

2. ALL PLANT MATERIAL SHALL GRADE A GROWN IN CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THIS WORK AND SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1 UNLESS OTHERWISE NOTED. PROVIDE TREES OF NORMAL GROWTH AND UNIFORM HEIGHTS, ACCORDING TO SPECIES, WITH STRAIGHT TRUNKS AND WELL DEVELOPED LEADERS, LATERALS, AND ROOTS.

3. EXISTING UTILITIES, EASEMENTS, AND STRUCTURES SHOWN ON THE DRAWINGS ARE IN ACCORDANCE WITH AVAILABLE RECORDS. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION, SIZE, TYPE, AND STRUCTURES TO BE ENCOUNTERED ON THE PROJECT PRIOR TO ANY EXCAVATION AND CONSTRUCTION IN THE VICINITY OF THE EXISTING UTILITIES AND STRUCTURES.

4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL REQUIRED PERMITS, LICENSES, AND APPROVALS REQUIRED TO LEGALLY AND RESPONSIBLY COMPLETE THE WORK.

5. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL, DISPOSAL, OR RELOCATION OF ALL OBSTRUCTIONS AND DEBRIS WITHIN THE DELINEATED CONSTRUCTION AREA PRIOR TO STARTING NEW CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ANY DEBRIS RESULTING FROM NEW CONSTRUCTION.

6. DAMAGE TO ANY EXISTING IMPROVEMENTS OR TO ANY PORTION OF THE PROJECT'S SURROUNDING AREA DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

7. THE CONTRACTOR SHALL CALL BLUE STAKES AT 1-800-662-4111 FOR UNDERGROUND UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION.

8. CONTRACTOR SHALL ROUGH GRADE TO WITHIN +/- A TENTH OF A FOOT FROM FINISH GRADE. ALL SOD AREAS SHALL BE GRADED 4" BELOW PROPOSED FINISH GRADE. ALL SHRUB AREAS SHALL BE GRADED 12" BELOW PROPOSED FINISH GRADE.

9. ALL COMPACTED AREAS DEVELOPED THROUGH CONSTRUCTION WITHIN PROPOSED LANDSCAPE AREAS SHALL BE SCARIFIED AND LOOSENED TO A DEPTH OF 12" PRIOR TO LANDSCAPE AND IRRIGATION WORK BEGINNING.

10. CONTRACTOR SHALL INSTALL A MIN. OF 4 INCHES OF PLANTING SOIL FOR ALL SOD AND SEED AREAS AND 12 INCHES OF PLANTING SOIL FOR ALL SHRUB AND PERENNIAL BEDS.

11. CONTRACTOR SHALL INSTALL A MIN. OF 4 INCHES OF SHREDDED CEDAR MULCH IN ALL PLANTING BEDS UNLESS OTHERWISE SHOWN ON PLANS. APPLY PRE-EMERGENT TO ALL PLANTING BEDS BEFORE INSTALLING.

12. ALL MOWSTRIPS TO BE 6" CAST-IN-PLACE CONCRETE.

13. NO PLANT SPECIES SUBSTITUTIONS WILL BE MADE WITHOUT APPROVAL OF OWNER.

14. ALL PLANT LAYOUT SHALL BE VERIFIED AND APPROVED IN FIELD BY OWNER PRIOR TO PLANTING. FAILURE TO RECEIVE APPROVAL MAY RESULT IN RE-WORK BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

15. ALL AREAS WITHIN AND AFFECTED BY THIS PROJECT SHALL HAVE POSITIVE DRAINAGE. POSITIVE DRAINAGE SHALL BE PROVIDED TO DIRECT STORMWATER AWAY FROM ALL STRUCTURES.

16. ALL CLARIFICATIONS OF DISCREPANCIES BETWEEN THE DRAWINGS AND THE SITE SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO BEGINNING OF WORK.

17. CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID DAMAGE TO EXISTING FEATURES AND FACILITIES SCHEDULED TO REMAIN AS PART OF THE FINISHED CONSTRUCTION. REPAIR, REPLACEMENT, AND/OR REMOVAL AS DETERMINED BY OWNER SHALL BE AT THE CONTRACTOR'S EXPENSE.

18. ALL PLANT MATERIAL SHALL BE IRRIGATED WITH A FULLY AUTOMATED IRRIGATION SYSTEM PROVIDING 100% COVERAGE WITH A MINIMUM OF 70% DISTRIBUTION UNIFORMITY.

19. ALL PLANT MATERIAL SHALL MEET AMERICAN STANDARD FOR NURSERY STOCK SET FORTH BY THE ANLA. OWNER TO BE ON-SITE TO ACCEPT OR REJECT ANY PLANT MATERIAL PRIOR TO PLANTING.

20. CONTRACTOR TO MAINTAIN LANDSCAPE FOR 60-DAY PERIOD WHICH SHALL COMMENCE UPON ACCEPTANCE OF LANDSCAPE BY OWNER. 60-DAY PERIOD SHALL TAKE PLACE DURING GROWING SEASON. IN THE EVENT THAT GROWING SEASON ENDS PRIOR TO COMPLETION OF MAINTENANCE PERIOD, MAINTENANCE PERIOD SHALL RESUME THE FOLLOWING SPRING.

CEDAR HILLS' REQUIREMENTS:

- MINIMUM 30% OF SITE TO BE LANDSCAPED; 35.0% PROVIDED SEE SHEET L-200
- 15' LANDSCAPE BUFFER ADJACENT TO RESIDENTIAL AREAS WITH TREES SPACED AT 25'; 15' BUFFER PROVIDED WITH TREES SPACED AT 23.5' (800'/34 TREES)
- STREET TREES SPACED AT 30' OC; PROVIDED
- 1 FLOWERING CRAB APPLE FOR EVERY 40' OF BUILDING FACADE; 1 PROVIDED FOR EVERY 38.9' OF BUILDING FACADES ((4,674 TOTAL)/120 TREES)
- PLANT PALETTE DERIVED FROM CEDAR HILLS GUIDELINES. ADDITIONAL PLANTS MAY BE SELECTED BY LANDSCAPE ARCHITECT BASED ON MICROCLIMATE FACTORS AND SEASONAL INTEREST.

0 20' 40' 80' 160'

blu

blu site designs
[illegible]
[illegible]
[illegible]

CONSULTANTS

ROSEGATE AT CEDAR HILLS SENIOR LIVING FACILITY

4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

REVISIONS

No.	Date	Description

Stamp

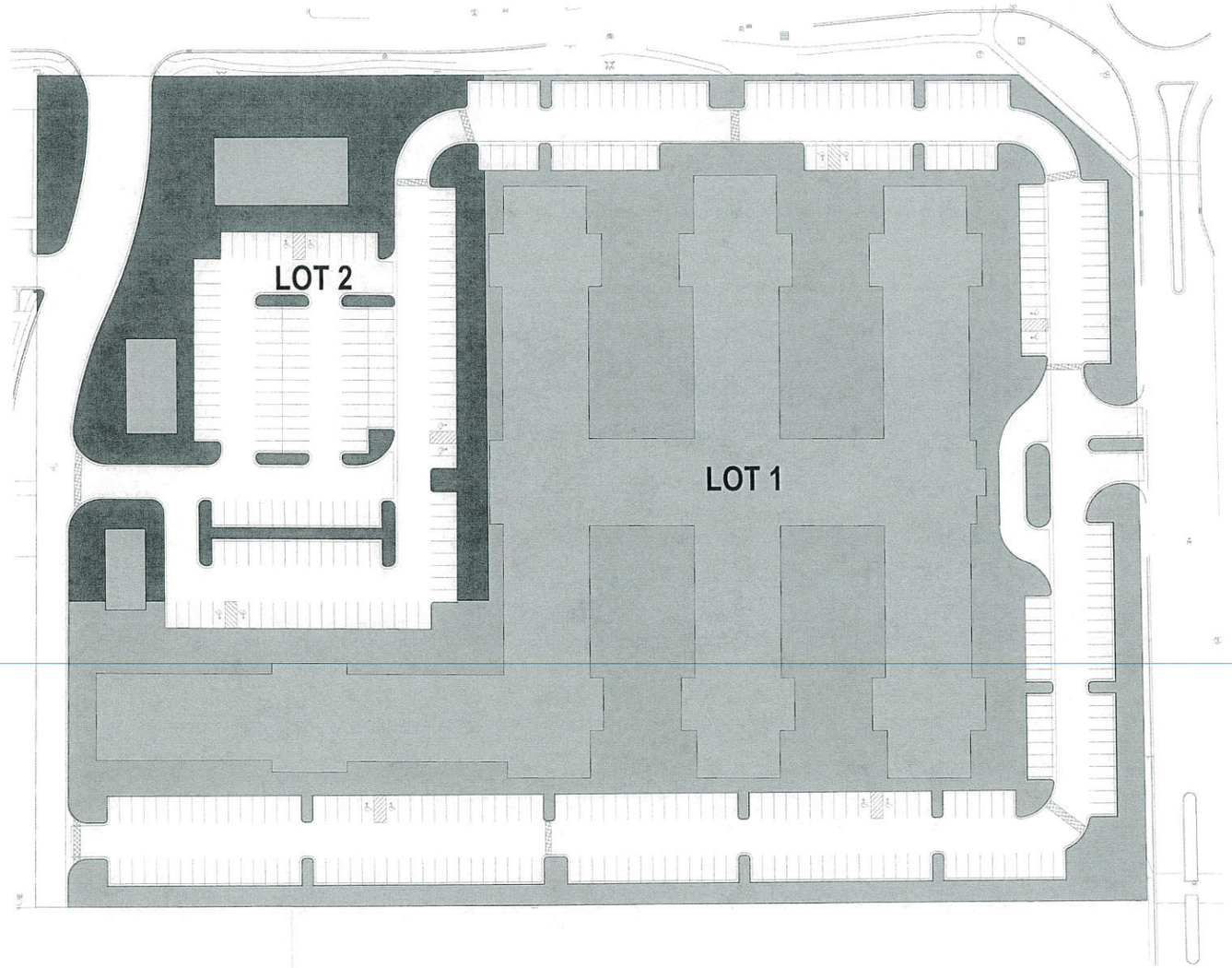
Designed By:	SS
Drawn By:	SS
Date:	08.04.2016
Checked By:	CAS
Project No:	13-128

Drawing Title

LANDSCAPE PLAN

Drawing number

L-100



LANDSCAPED AREA

LOT 1 - 37.4% OF SITE
LOT 2 - 36.8% OF SITE
OVERALL - 37.3% OF SITE

0 20' 40' 80' 160'

blu line designs

CONSULTANTS

ROSEGATE AT CEDAR HILLS
SENIOR LIVING FACILITY
4600 WEST CEDAR HILLS DRIVE
CEDAR HILLS, UTAH

REVISIONS

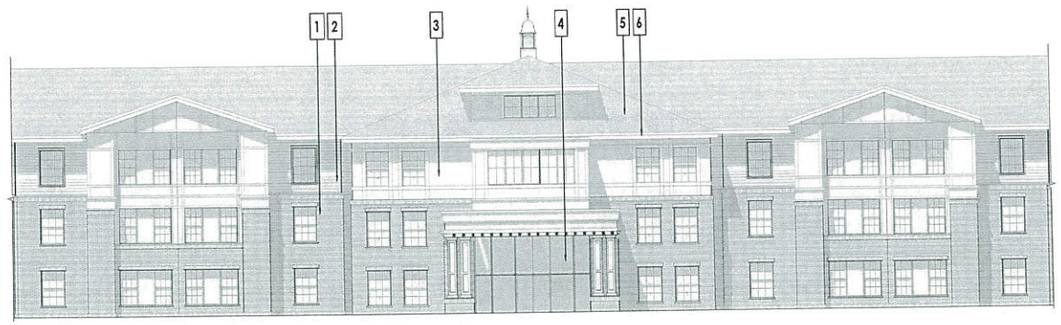
Stamp

Designed By: SS
Drawn By: SS
Date: 06.04.2015
Checked By: CAS
Project No: 13-128

Drawing Title:
OPEN SPACE PLAN

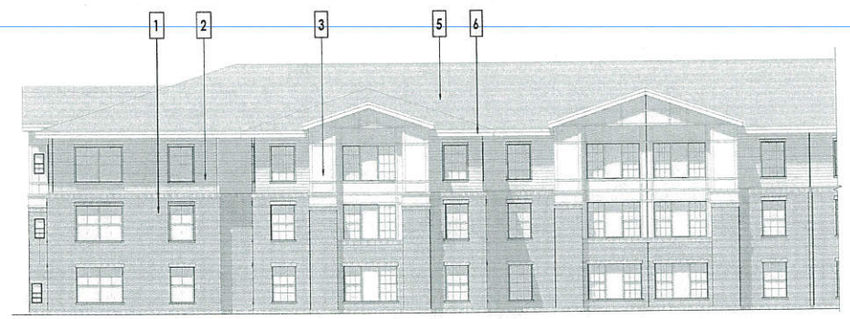
Drawing number:
L-200

EAST ELEVATION - OVERALL 1



EAST ELEVATION - CENTRAL 2

MATERIAL LEGEND	
1	BRICK VENEER PER CEDAR HILLS DESIGN GUIDELINES
2	CEMENT BOARD LAP SIDING PER CEDAR HILLS DESIGN GUIDELINES
3	CEMENT BOARD PANEL SIDING PER CEDAR HILLS DESIGN GUIDELINES
4	ALUMINUM STOREFRONT
5	COMPOSITE TILE ROOF PER CEDAR HILLS DESIGN GUIDELINES
6	PAINTED TRIM



EAST ELEVATION - SOUTH 3

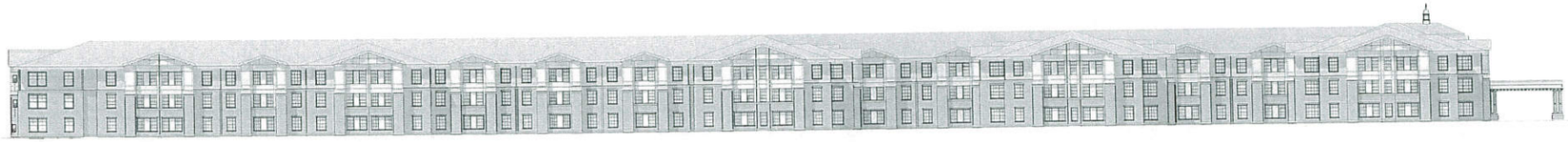
EAST ELEVATION - NORTH 4

Think Architecture

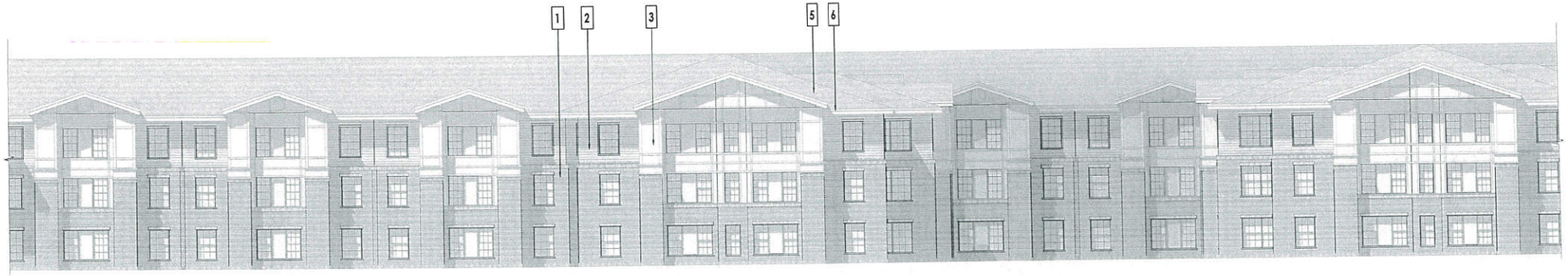
ROSEGATE CONGREGATE CARE

CEDAR HILLS, UTAH

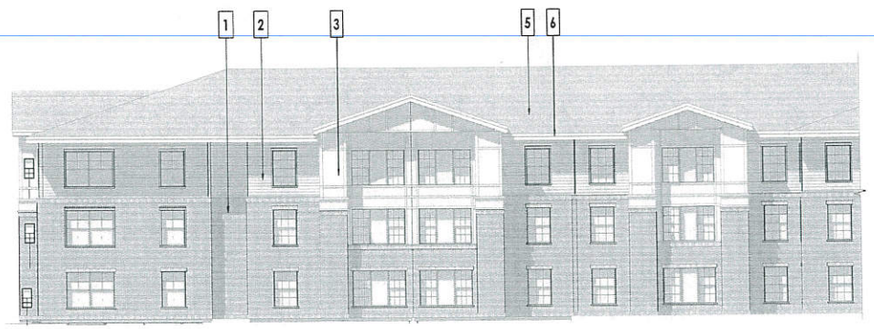
31 JULY 2015



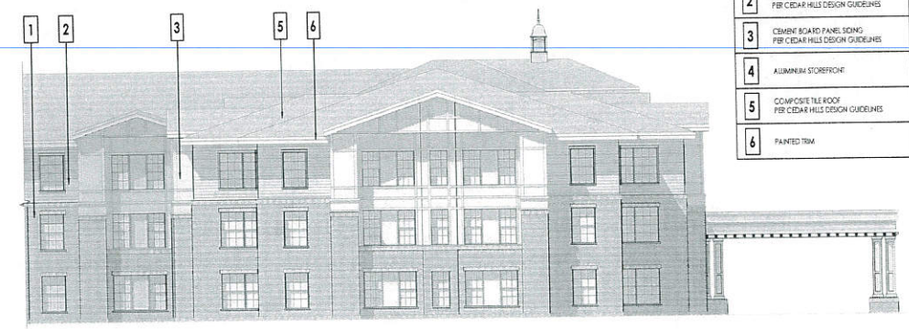
SOUTH ELEVATION - OVERALL 1



SOUTH ELEVATION - CENTRAL 2



SOUTH ELEVATION - WEST 3



SOUTH ELEVATION - EAST 4

MATERIAL LEGEND

1	BRICK VENEER PER CEDAR HILLS DESIGN GUIDELINES
2	CEMENT BOARD LAP SIDING PER CEDAR HILLS DESIGN GUIDELINES
3	CEMENT BOARD PANEL SIDING PER CEDAR HILLS DESIGN GUIDELINES
4	ALUMINUM STOREFRONT
5	COMPOSITE TILE ROOF PER CEDAR HILLS DESIGN GUIDELINES
6	PAINTED TRIM

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ROSEGATE CONGREGATE CARE

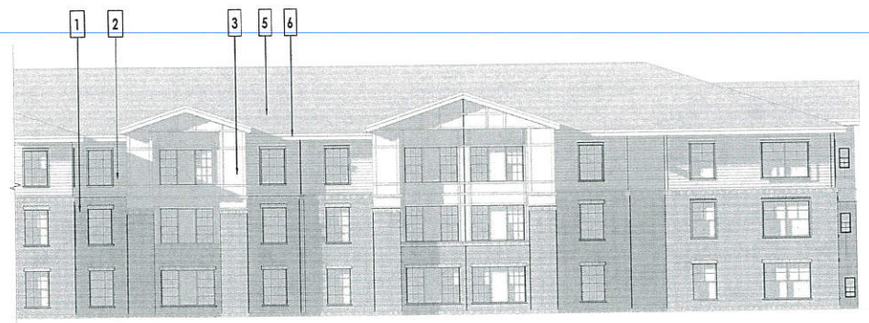
CEDAR HILLS, UTAH

31 JULY 2015

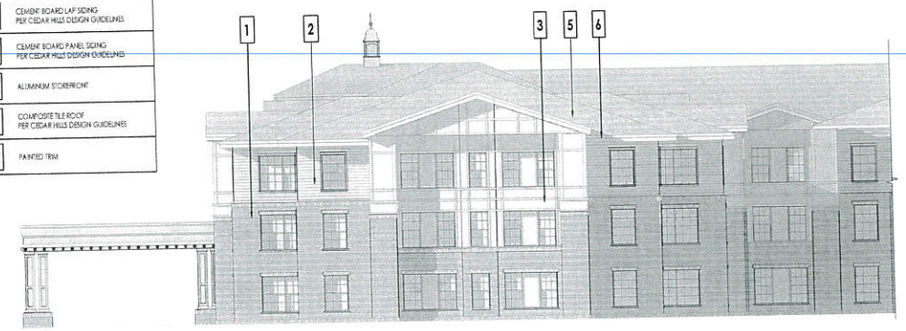
NORTH ELEVATION - OVERALL 1 CD3.1
1" = 20'-0"

NORTH ELEVATION - CENTRAL 2 CD3.1
1/8" = 1'-0"

MATERIAL LEGEND	
1	BRICK VENEER PER CEDAR HILLS DESIGN GUIDELINES
2	CEMENT BOARD LAP SIDING PER CEDAR HILLS DESIGN GUIDELINES
3	CEMENT BOARD PANEL SIDING PER CEDAR HILLS DESIGN GUIDELINES
4	ALUMINUM STOREFRONT
5	COMPOSITE TILE ROOF PER CEDAR HILLS DESIGN GUIDELINES
6	PAINTED TRIM



NORTH ELEVATION - CENTRAL Copy 1 3 CD3.1
1/8" = 1'-0"



NORTH ELEVATION - EAST 4 CD3.1
1/8" = 1'-0"

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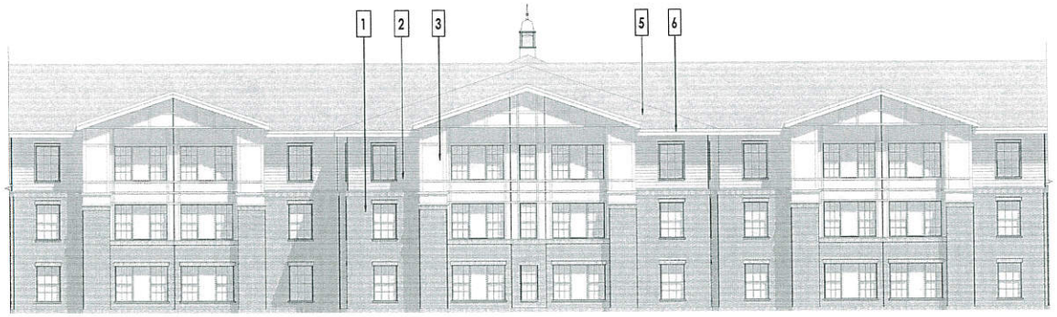
ROSEGATE CONGREGATE CARE

CEDAR HILLS, UTAH

31 JULY 2015

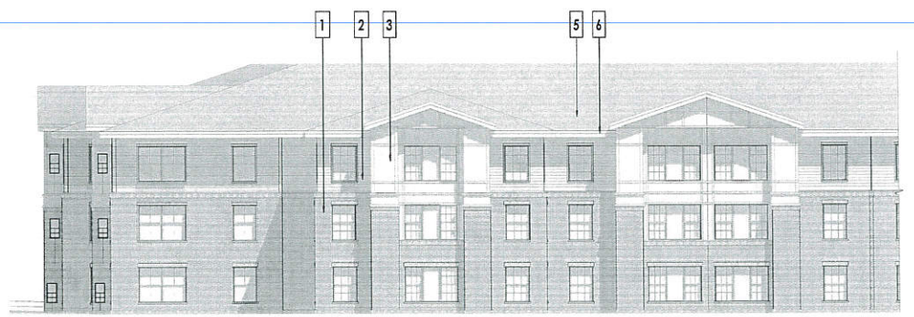
WEST ELEVATION - OVERALL 1



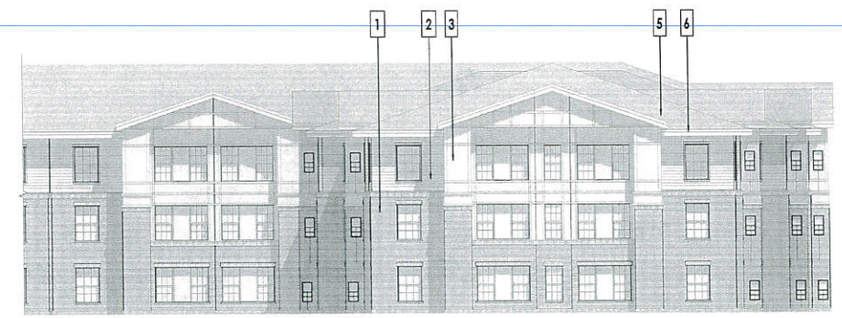
WEST ELEVATION - CENTRAL 2

MATERIAL LEGEND

1	BRICK VENEER PER CEDAR HILLS DESIGN GUIDELINES
2	CEMENT BOARD LAP SIDING PER CEDAR HILLS DESIGN GUIDELINES
3	CEMENT BOARD PANEL SIDING PER CEDAR HILLS DESIGN GUIDELINES
4	ALUMINUM STOREFRONT
5	COMPOSITE TILE ROOF PER CEDAR HILLS DESIGN GUIDELINES
6	PAINTED TRIM



WEST ELEVATION - NORTH 3



WEST ELEVATION - SOUTH 4

Think Architecture

ROSEGATE CONGREGATE CARE

CEDAR HILLS, UTAH

31 JULY 2015

DRAINAGE REPORT

Rosegate at Cedar Hills

CEDAR HILLS, UTAH

PREPARED FOR:

CEDAR HILLS FARM LAND, LLC
DOUG YOUNG
6150 SOUTH REDWOOD ROAD SUITE 150
TAYLORSVILLE, UT 84123
(801) 205-5500

PREPARED BY:

ENSIGN ENGINEERING
RILEY FORD
45 WEST 10000 SOUTH #500
SANDY, UT 84070
(801) 255-0529

AUGUST 3, 2015

ENSIGN
Civil Engineering
Structural Engineering
Land Surveying
Urban Design
Planning

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2.0 EXISTING DRAINAGE CONDITIONS 2

3.0 DESIGN OBJECTIVES AND METHODOLOGY 2

4.0 PROPOSED DRAINAGE CONDITIONS 3

5.0 CONCLUSIONS 4

6.0 APPENDIX A - CALCULATIONS 5

LIST OF TABLES

Table 3-1 CEDAR HILLS IDF CURVE DISTRIBUTION 3

1.0 PROJECT OVERVIEW/LOCATION

The Rosegate at Cedar Hills project is located in Cedar Hills Utah, in the northwest quarter of Section 6, Township 5 south, Range 2 east, Salt Lake Base and Meridian, Utah County, Utah. The project is bounded by undeveloped land to the west, an existing subdivision to the south, Cedar Hills Dr on the north, and 4600 West Street on the west. The Rosegate at Cedar Hills will contain one living facility and three retail buildings. The project will also include the construction of roadways, parking and utilities needed to support the aforementioned building. The project storm runoff will all be retained on site and will infiltrate into the soil.

2.0 EXISTING DRAINAGE CONDITIONS

The Rosegate at Cedar Hills is located on property containing 11.44 acres. The site slopes gently from northeast to the southwest and eventually flows onto existing agricultural land to the northwest of the project. The existing site is limited to short grasses overlaying 12" of topsoil. There is a drainage ditch along the east property line that collects runoff from 4600 West Street and directs it to an existing retention pond located on the southeast corner of the site. The ditch and retention pond are proposed to be abandoned and the runoff will be incorporated into the Rosegate at Cedar Hills retention system. The proposed land use is multifamily housing consisting of buildings, roads and formal landscaping.

3.0 DESIGN OBJECTIVES AND METHODOLOGY

The site drainage system will be designed to meet the requirements of Cedar Hills City. This report will address the sizing of the underground piping system to convey runoff from a 10-year storm event as well as safely routing the 100-year storm through the site. As well as the sizing of the retention galleries designed to retain the 100-year storm event until runoff infiltrates into the soil.

The rational method was used for this site to determine the size required for each retention gallery. The site was broken into three separate drainage catchments. Each respective catchment was assigned a runoff coefficient based on the anticipated hardscape expected to be created by the construction of buildings, roadways, etc. The coefficients used were analyzed appropriate for the area of this

study. A percolation rate of 12 minutes per inch was used for this site based on the sandy and gravely soil reported in the geotechnical report based on subsurface investigations.

Design criteria include the following

- The 10-year storm event was used to size underground conveyance systems.
- Surface systems are planned to safely pass the 100-year storm event.
- The 100-year storm event was used to size all retention galleries.

The following rainfall intensity was used to analyze the system (Rainfall data obtained from Cedar Hills City).

TABLE 3-1 CEDAR HILLS IDF CURVE DISTRIBUTION

ARI (Years)	10 min.	15 min.	30 min.	1 Hr.	2 Hr.	3 Hr.	6 Hr.	12 Hr.	24 Hr.
2	1.50	1.24	0.83	0.52	0.32	0.25	0.16	0.10	0.06
5	2.06	1.70	1.15	0.71	0.42	0.31	0.20	0.13	0.08
10	2.57	2.12	1.43	0.88	0.51	0.37	0.23	0.14	0.09
25	3.39	2.80	1.89	1.17	0.66	0.47	0.28	0.17	0.10
50	4.13	3.42	2.30	1.42	0.80	0.55	0.32	0.19	0.11
100	5.02	4.14	2.79	1.73	0.95	0.65	0.36	0.22	0.12

4.0 PROPOSED DRAINAGE CONDITIONS

The proposed 4700 West public street will drain to the south and into an existing agricultural field where it will infiltrate and evaporate. The remaining site will be designed to direct runoff from paved and other hardscape areas into waterways and gutters which will be collected in catch basins. Once stormwater has entered the pipe system it will be conveyed to one of the three retention basins located on the property. Based on calculations using the rational method, a total retention volume of **37,760 ft³** will be required along with **6,056 ft³** from 4600 West Street. This storage has been divided into three separate storage galleries around the site, the north gallery requires **16,148 ft³**, the south gallery requires **15,267 ft³**, and the west gallery requires **12,399 ft³**. The provided storage of the north gallery is

16,740 ft³, the provided storage of the south gallery is **15,846 ft³**, and the provided storage of the west gallery is **13,162 ft³**, thus providing a total storage of **45,748 ft³**. The proposed retention is composed of subsurface storage in storm chambers with a total infiltration/percolation rate of 1.61 cfs. Calculations have been included in appendix A.

5.0 CONCLUSIONS

The drainage system as outlined will safely convey storm water to proposed localized retention basins. All pipe sizes as shown are adequate to convey runoff from the 10-year storm event. All retention basins have been sized to retain the 100-year storm event and all water will infiltrate into the soil.

Ensign Engineering

Riley Ford, E.I.T.
Design Engineer

Reviewed By

Robert Q. Elder, P.E.
Project Manager

6.0 APPENDIX A – CALCULATIONS

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Project :	Rosegate at Cedar Hills - North Gallery	Project No. :	6001
By :	R. Ford	Checked By :	R. Elder
Date :	3-Aug-2015	Sheet :	

Drainage Calculation

	Area Calculations			*Area Runoff Coefficients*	
PAVED & ROOF AREAS (Ap):	2.01	acres		Cp :	0.90
LANDSCAPE AREA (Al):	1.02	acres		Cl :	0.15
TOTAL AREA (A):	3.030	acres		WEIGHTED C:	0.65

Runoff Calculations

				Total Infiltration	0.591	cfs
Time (min)	CA (Acres)	Precipitation (in/hr)	Time (sec)	Cumulative Runoff (ft^3)	Infiltration (ft^3)	Storage (ft^3)
10	1.96	5.02	600	5,910	355	5,555
15	1.96	4.14	900	7,310	532	6,779
30	1.96	2.79	1,800	9,853	1,064	8,789
60	1.96	1.73	3,600	12,219	2,128	10,092
120	1.96	0.95	7,200	13,420	4,255	9,165
180	1.96	0.65	10,800	13,773	6,383	7,390
360	1.96	0.36	21,600	15,257	12,766	2,491
720	1.96	0.22	43,200	18,647	25,531	-6,884
1440	1.96	0.12	86,400	20,342	51,062	-30,720
Note 100-yr Storm					STORAGE REQUIRED :	10,092
					OFFSITE STORAGE REQUIRED :	6,056
					TOTAL STORAGE REQUIRED :	16,148
					STORAGE PROVIDED :	16,740

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Project :	Rosegate at Cedar Hills - South Gallery	Project No. :	6001
By :	R. Ford	Checked By :	R. Elder
Date :	3-Aug-2015	Sheet :	

Drainage Calculation

Area Calculations			***Area Runoff Coefficients***	
PAVED & ROOF AREAS (Ap):	2.84	acres	Cp :	0.90
LANDSCAPE AREA (Al):	1.46	acres	Cl :	0.15
TOTAL AREA (A):	4.300	acres	WEIGHTED C:	0.65

Runoff Calculations

				Total Infiltration	0.560	cfs
Time (min)	CA (Acres)	Precipitation (in/hr)	Time (sec)	Cumulative Runoff (ft^3)	Allowed Runoff (ft^3)	Storage (ft^3)
10	2.78	5.02	600	8,358	336	8,022
15	2.78	4.14	900	10,340	504	9,836
30	2.78	2.79	1,800	13,936	1,008	12,928
60	2.78	1.73	3,600	17,283	2,016	15,267
120	2.78	0.95	7,200	18,981	4,032	14,949
180	2.78	0.65	10,800	19,481	6,048	13,433
360	2.78	0.36	21,600	21,578	12,096	9,482
720	2.78	0.22	43,200	26,374	24,192	2,182
1440	2.78	0.12	86,400	28,771	48,384	-19,613
Note 100-yr Storm					STORAGE REQUIRED :	15,267
					STORAGE PROVIDED :	15,846

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Project :	Rosegate at Cedar Hills - West Gallery	Project No. :	6001
By :	R. Ford	Checked By :	R. Elder
Date :	3-Aug-2015	Sheet :	

Drainage Calculation

Area Calculations			***Area Runoff Coefficients***	
PAVED & ROOF AREAS (Ap):	2.33	acres	Cp :	0.90
LANDSCAPE AREA (Al):	1.09	acres	Cl :	0.15
TOTAL AREA (A):	3.420	acres	WEIGHTED C:	0.66

Runoff Calculations

				Total allowable runoff	0.466	cfs
Time (min)	CA (Acres)	Precipitation (in/hr)	Time (sec)	Cumulative Runoff (ft^3)	Allowed Runoff (ft^3)	Storage (ft^3)
10	2.26	5.02	600	6,809	280	6,529
15	2.26	4.14	900	8,423	419	8,003
30	2.26	2.79	1,800	11,352	839	10,513
60	2.26	1.73	3,600	14,078	1,678	12,401
120	2.26	0.95	7,200	15,462	3,355	12,107
180	2.26	0.65	10,800	15,869	5,033	10,836
360	2.26	0.36	21,600	17,578	10,066	7,512
720	2.26	0.22	43,200	21,484	20,131	1,353
1440	2.26	0.12	86,400	23,437	40,262	-16,826
Note 100-yr Storm					STORAGE REQUIRED :	12,401
					STORAGE PROVIDED :	13,162

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Senior Living Facility - *Updated*

Traffic Impact Study

Cedar Hills, Utah

February 2015

UT14-558

2975 West Executive Pkwy, Ste. 151 Lehi, Utah 84043 p. 801/ 766.4343
www.halesengineering.com

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EXECUTIVE SUMMARY

This study addresses the traffic impacts associated with the proposed Senior Living Facility development in Cedar Hills, Utah. The proposed development is located on the southwest corner of the 4600 West / Cedar Hills Drive intersection. Figure 1 shows a vicinity map of the proposed development.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways in the vicinity of the site.

TRAFFIC ANALYSIS

The following is an outline of the traffic analysis performed by Hales Engineering for the traffic conditions of this project.

Existing (2014) Background Conditions Analysis

Hales Engineering has performed numerous traffic counts in the area for previous traffic impact studies. The previous traffic count data showed that at the Cedar Hills Drive / 4800 West intersection, traffic during the a.m. peak hour is approximately 13% higher than during the p.m. peak hour, due to the close proximity of Lone Peak High School. In order to analyze the worst case conditions, this study analyzed the a.m. peak hour in each scenario. Therefore, Hales Engineering performed weekday morning (7:00 – 9:00 a.m.) peak period traffic counts at the following intersections:

- Cedar Hills Drive / 4800 West
- 4700 West (Walmart Full Access) / Cedar Hills Drive
- 4600 West / Cedar Hills Drive
- Existing Access / 4600 West

These counts were performed on Thursday, January 23, 2014. The a.m. peak hour was determined to be between the hours of 7:15 and 8:15 a.m. Detailed count data are included in Appendix A.

As shown in Table ES-1, all study intersections are currently operating at acceptable levels of service during the a.m. peak hour. No significant queuing is anticipated.

Project Conditions Analysis

The proposed land use for the development has been identified as follows:

- Senior Adult Housing - Attached: 291 units

- Office: ~2,500 sq. ft.
- Retail: ~2,500 sq. ft.

The total trip generation for the development is as follows:

- Daily Trips: 1,138
- a.m. Peak Hour Trips: 68
- p.m. Peak Hour Trips: 86

Existing (2014) Plus Project Conditions Analysis

As shown in Table ES-1, all study intersections are anticipated to continue to operate at acceptable levels of service during the a.m. peak hour. No significant queuing is anticipated.

TABLE ES-1
A.M. Peak Hour
Cedar Hills - Senior Living Facility TIS

Intersection	Existing 2014 Background	Existing 2014 Plus Project
Description	LOS (Sec/Veh[1])	LOS (Sec/Veh[1])
Cedar Hills Drive / 4800 West	**B (13.9)**	**B (13.9)**
Walmart Access & North Access / Cedar Hills Drive	**SB / B (12.0)**	**NB / B (12.0)**
4600 West / Cedar Hills Drive	**A (3.7)**	**A (3.6)**
Lexington Heights & North Project Accesses / 4600 West	**WB / A (3.5)**	**EB / A (4.6)**
West Project & Charleston Access / 4600 West	**WB / A (4.9)**	**EB / A (4.3)**

1. Intersection LOS and delay (seconds/vehicle) values represent the overall intersection average for signalized and all-way stop controlled intersections and the worst approach for all other unsignalized intersections.
2. These are project intersections and were only evaluated in "plus project" scenarios.

Source: Hales Engineering, February 2015

RECOMMENDATIONS

The following mitigation measures are recommended:

Existing (2014) Background Conditions Analysis

No mitigation measures are recommended.

Existing (2014) Plus Project Conditions Analysis

No mitigation measures are recommended.

Parking

Based on our experience and that of neighboring jurisdictions, it is our recommendation that 1.0 space per unit will more than adequately meet the parking needs for patrons, employees and visitors.

SUMMARY OF KEY FINDINGS/RECOMMENDATIONS

The following is a summary of key findings and recommendations:

- All study intersections currently operate at acceptable levels of service during the a.m. peak hour.
- With project traffic added, all study intersections continue to operate at acceptable levels of service.
- No mitigation measures are recommended.
- We recommend 1.0 spaces per unit to remain conservative, see parking in Chapter III.

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I. INTRODUCTION

A. Purpose

This study addresses the traffic impacts associated with the proposed Senior Living Facility development in Cedar Hills, Utah. The proposed development is located on the southwest corner of the 4600 West / Cedar Hills Drive intersection. Figure 1 shows a vicinity map of the proposed development.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways in the vicinity of the site.

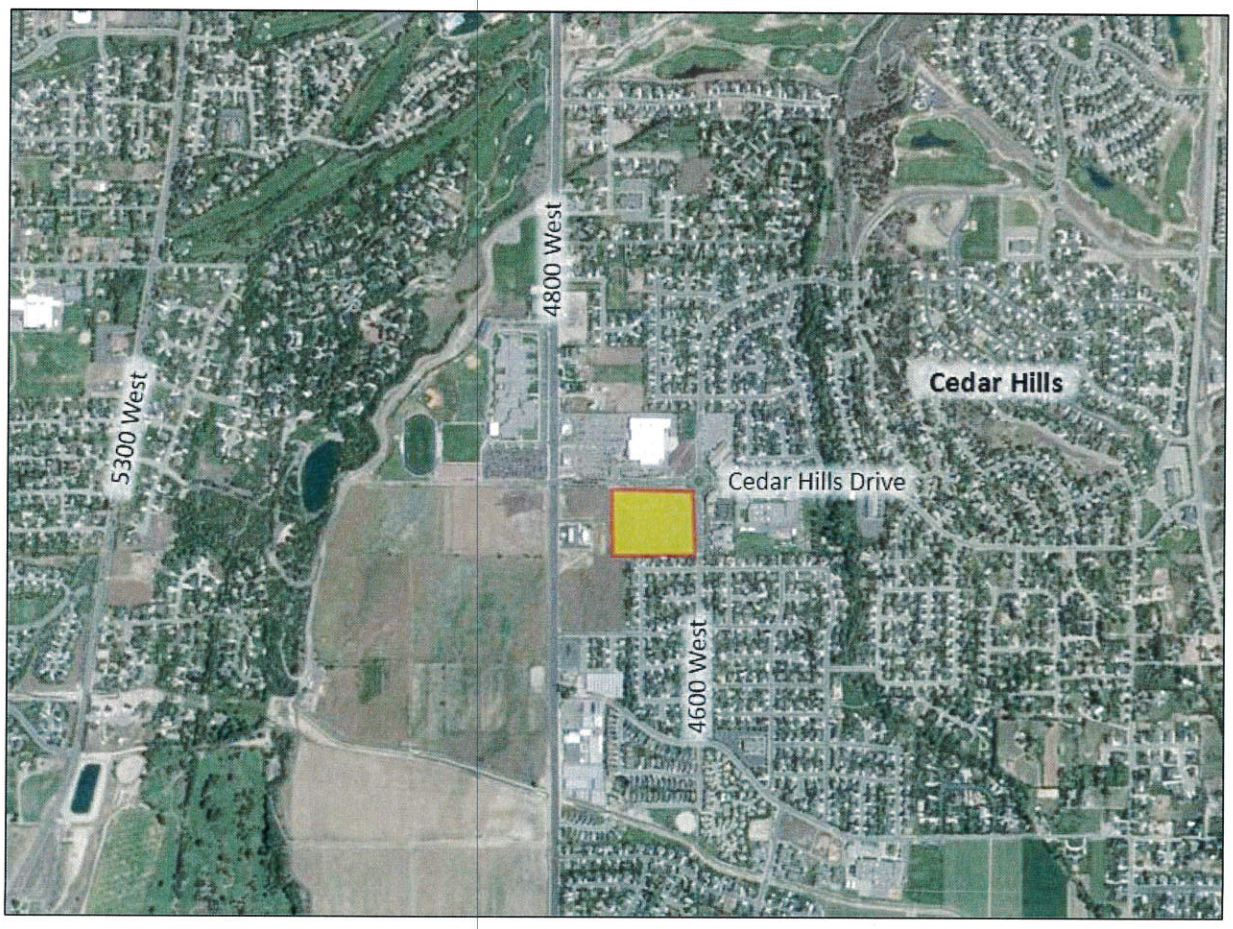


Figure 1 Vicinity map showing the project location in Cedar Hills, Utah

B. Scope

The study area was defined based on conversations with the development team. This study was scoped to evaluate the traffic operational performance impacts of the project on the following intersections:

- Cedar Hills Drive / 4800 West
- 4700 West (Walmart Full Access) / Cedar Hills Drive
- 4600 West / Cedar Hills Drive
- Existing Accesses (2) / 4600 West

C. Analysis Methodology

Level of service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. Table 1 provides a brief description of each LOS letter designation and an accompanying average delay per vehicle for both signalized and unsignalized intersections.

The Highway Capacity Manual 2010 (HCM 2010) methodology was used in this study to remain consistent with "state-of-the-practice" professional standards. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized and all-way stop intersections, the LOS is provided for the overall intersection (weighted average of all approach delays). For all other unsignalized intersections LOS is reported based on the worst approach.

D. Level of Service Standards

For the purposes of this study, a minimum overall intersection performance for each of the study intersections was set at LOS D. However, if LOS E or F conditions exist, an explanation and/or mitigation measures will be presented. An LOS D threshold is consistent with "state-of-the-practice" traffic engineering principles for urbanized areas.

Table 1 Level of Service Descriptions

Level of Service	Description of Traffic Conditions	Average Delay (seconds/vehicle)
	Signalized Intersections	**Overall Intersection**
A	Extremely favorable progression and a very low level of control delay. Individual users are virtually unaffected by others in the traffic stream.	0 ≤ 10.0
B	Good progression and a low level of control delay. The presence of other users in the traffic stream becomes noticeable.	> 10.0 and ≤ 20.0
C	Fair progression and a moderate level of control delay. The operation of individual users becomes somewhat affected by interactions with others in the traffic stream.	>20.0 and ≤ 35.0
D	Marginal progression with relatively high levels of control delay. Operating conditions are noticeably more constrained.	> 35.0 and ≤ 55.0
E	Poor progression with unacceptably high levels of control delay. Operating conditions are at or near capacity.	> 55.0 and ≤ 80.0
F	Unacceptable progression with forced or breakdown operating conditions.	> 80.0
	Unsignalized Intersections	**Worst Approach**
A	Free Flow / Insignificant Delay	0 ≤ 10.0
B	Stable Operations / Minimum Delays	>10.0 and ≤ 15.0
C	Stable Operations / Acceptable Delays	>15.0 and ≤ 25.0
D	Approaching Unstable Flows / Tolerable Delays	>25.0 and ≤ 35.0
E	Unstable Operations / Significant Delays Can Occur	>35.0 and ≤ 50.0
F	Forced Flows / Unpredictable Flows / Excessive Delays Occur	> 50.0

Source: Hales Engineering Descriptions, based on Highway Capacity Manual, 2010 Methodology (Transportation Research Board, 2010)

II. EXISTING (2014) BACKGROUND CONDITIONS

A. Purpose

The purpose of the existing (2014) background analysis is to study the intersections and roadways during the peak travel periods of the day with background traffic and geometric conditions. Through this analysis, background traffic operational deficiencies can be identified and potential mitigation measures recommended. This analysis will provide a baseline condition that may be compared to the build conditions to identify the impacts of the development.

B. Roadway System

The primary roadways that will provide access to the project site is described below:

4800 West (SR-129) – is a UDOT maintained roadway that was recently changed in November 2014 from city to UDOT jurisdiction. 4800 West has two travel lanes in each direction south of Cedar Hills Drive and three southbound lanes with two northbound lanes north of Cedar Hills Drive. 4800 West also has a two-way left-turn lane (TWLTL) and right turn pockets at intersections. The posted speed limit on 4800 West is 40 mph.

Cedar Hills Drive – is a city maintained roadway classified as a Collector Street. Cedar Hills Drive has one travel lane in each direction as well as a center median that opens for left-turn pockets. The posted speed limit on Cedar Hills Drive is 25 mph.

4600 West – is a city maintained roadway classified as a Local Street. 4600 West has one travel lane in each direction with wide shoulders. The posted speed limit on 4600 West is 25 mph.

C. Traffic Volumes

Hales Engineering has performed numerous traffic counts in the area for previous traffic impact studies. The previous traffic count data showed that at the Cedar Hills Drive / 4800 West intersection, traffic during the a.m. peak hour is approximately 13% higher than the p.m. peak hour, due to the close proximity of Lone Peak High School. In order to analyze the worst case conditions, this study analyzed the a.m. peak hour in each scenario. Therefore, Hales Engineering performed weekday morning (7:00 – 9:00 a.m.) peak period traffic counts at the following intersections:

- Cedar Hills Drive / 4800 West
- 4700 West (Walmart Full Access) / Cedar Hills Drive
- 4600 West / Cedar Hills Drive
- Existing Accesses (2) / 4600 West

These counts were performed on Thursday, January 23, 2014. The a.m. peak hour was determined to be between the hours of 7:15 and 8:15 a.m. Detailed count data are included in Appendix A. Figure 2 shows the existing a.m. peak hour volume as well as intersection geometry at the study intersections.

D. Level of Service Analysis

Using Synchro/SimTraffic, which follow the Highway Capacity Manual (HCM) 2010 methodology introduced in Chapter I, the a.m. peak hour LOS was computed for each study intersection. The results of this analysis are reported in Table 2 (see Appendix B for the detailed LOS reports). Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. These results serve as a baseline condition for the impact analysis of the proposed development during existing (2014) conditions. As shown in Table 2, all study intersections are currently operating at acceptable levels of service during the a.m. peak hour.

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. The queue reports can be found in Appendix D. No significant queuing was observed.

F. Mitigation Measures

No mitigation measures are recommended.

Table 2 Existing (2014) Background a.m. Peak Hour Level of Service

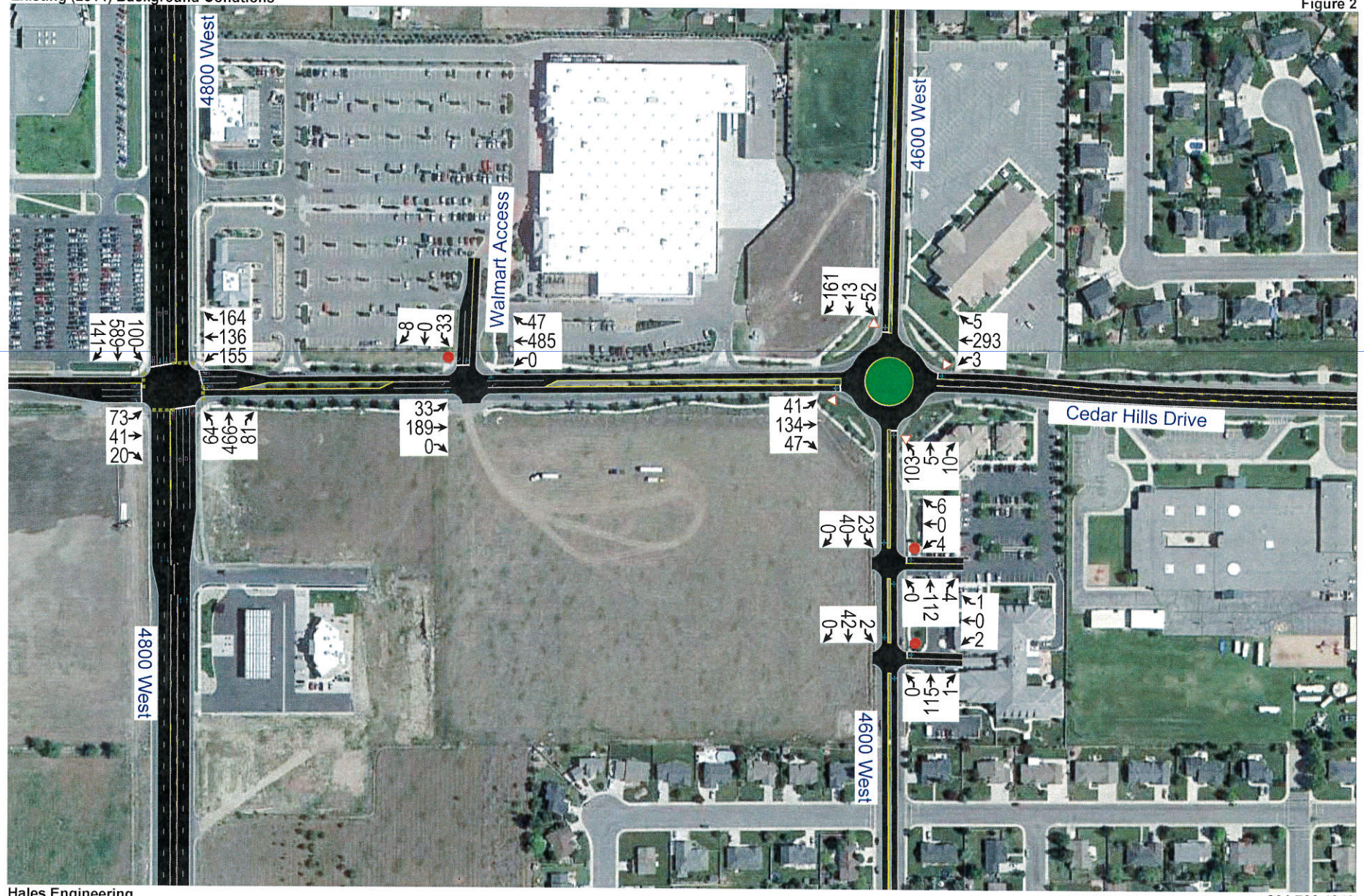
Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Cedar Hills Drive / 4800 West	Signal	-	-	-	13.9	B
Walmart Access / Cedar Hills Drive	SB Stop	SB	12.0	B	-	-
4600 West / Cedar Hills Drive	Round-about	-	-	-	3.7	A
Lexington Heights Access / 4600 West	WB Stop	WB	3.5	A	-	-
Charleston Access / 4600 West	WB Stop	WB	4.9	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, February 2015

Cedar Hills - Senior Llving Facility TIS
Existing (2014) Background Condtions

a.m. Peak Hour
Figure 2



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III. PROJECT CONDITIONS

A. Purpose

The project conditions analysis explains the type and intensity of development. This provides the basis for trip generation, distribution, and assignment of project trips to the surrounding study intersections defined in the Introduction.

B. Project Description

This study addresses the traffic impacts associated with the proposed Senior Living Facility development in Cedar Hills, Utah. The proposed development is located on the southwest corner of the 4600 West / Cedar Hills Drive intersection. A concept plan for the proposed development has been included in Appendix C.

The proposed land use for the development has been identified as follows:

- Senior Adult Housing - Attached: 291 units
- Office: ~2,500 sq. ft.
- Retail: ~2,500 sq. ft.

C. Trip Generation

Trip generation for the project was calculated using trip generation rates published in the Institute of Transportation Engineers (ITE) *Trip Generation (9th Edition, 2012)*. Trip Generation for the proposed project is included in Table 3.

D. Trip Distribution and Assignment

Project traffic is assigned to the roadway network based on the type of trip and the proximity of project access points to major streets, high population densities, and regional trip attractions. Existing travel patterns observed during data collection also provide helpful guidance to establishing these distribution percentages, especially in close proximity to the site. The resulting distribution of project generated trips is as follows:

<u>To/From Project:</u>

- 5% South (on 4600 West)
- 10% North (on 4600 West)
- 15% East (on Cedar Hills Drive)
- 35% North (on 4800 West)
- 35% South (on 4800 West)

These trip distribution assumptions were used to assign the a.m. peak hour generated traffic at the study intersections to create trip assignment for the proposed development. Trip assignment for the development is shown in Figure 3.

Table 3
Cedar Hills - Senior Living Facility TIS
Trip Generation

Weekday Daily Land Use[1]	Number of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	**Total Daily Trips**
Senior Adult Housing- Attached (252)	291	Dwelling Units	1,002	50%	50%	501	501	**1,002**
General Office Building (710) [average rate]	2.5	1,000 Sq. Ft. GFA	28	50%	50%	14	14	**28**
Shopping Center (820) [average rate]	2.5	1,000 Sq. Ft. GLA	108	50%	50%	54	54	**108**
Project Total Daily Trips						**569**	**569**	**1,138**
A.M. Peak Hour Land Use[1]	Number of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	**Total a.m. Trips**
Senior Adult Housing- Attached (252)	291	Dwelling Units	60	34%	66%	20	40	**60**
General Office Building (710) [average rate]	2.5	1,000 Sq. Ft. GFA	4	88%	12%	4	0	**4**
Shopping Center (820) [average rate]	2.5	1,000 Sq. Ft. GLA	4	62%	38%	2	2	**4**
Project Total a.m. Peak Hour Trips						**26**	**42**	**68**
P.M. Peak Hour Land Use[1]	Number of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	**Total p.m. Trips**
Senior Adult Housing- Attached (252)	291	Dwelling Units	72	54%	46%	39	33	**72**
General Office Building (710) [average rate]	2.5	1,000 Sq. Ft. GFA	4	17%	83%	1	3	**4**
Shopping Center (820) [average rate]	2.5	1,000 Sq. Ft. GLA	10	48%	52%	5	5	**10**
Project Total p.m. Peak Hour Trips						**45**	**41**	**86**
Saturday Daily Land Use[1]	Number of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	**Total Sat. Daily Trips**
Senior Adult Housing- Attached (252)	291	Dwelling Units	760	50%	50%	380	380	**760**
General Office Building (710) [average rate]	2.5	1,000 Sq. Ft. GFA	8	50%	50%	4	4	**8**
Shopping Center (820) [average rate]	2.5	1,000 Sq. Ft. GLA	126	50%	50%	63	63	**126**
Project Total Saturday Trips						**447**	**447**	**894**
Saturday Peak Hour Land Use[1]	Number of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	**Total Sat Pk Hr Trips**
Senior Adult Housing- Attached (252)	291	Dwelling Units	92	57%	43%	52	40	**92**
General Office Building (710) [average rate]	2.5	1,000 Sq. Ft. GFA	2	54%	46%	1	1	**2**
Shopping Center (820) [average rate]	2.5	1,000 Sq. Ft. GLA	14	52%	48%	7	7	**14**
Project Total Saturday Peak Hour Trips						**60**	**48**	**108**

1. Land Use Code from the Institute of Transportation Engineers Trip Generation Manual (9th Edition - 2012)

SOURCE: Hales Engineering, February 2015

E. Access

The proposed access for the site will be gained at the following locations (see also site plan in Appendix C):

Cedar Hills Drive:

- North Access: The proposed full-movement access will be located approximately 460 feet east of 4800 West and will line up directly with the Walmart Access. The proposed access is also planned to serve future developments and will extend further south.

4600 West:

- North Access: The proposed full-movement access will be located approximately 250 feet south of the roundabout at the 4600 West / Cedar Hills Drive intersection. The proposed access will line up directly with the existing Lexington Heights Access.
- West Access: The proposed full-movement access will be located approximately 400 feet south of the roundabout at the 4600 West / Cedar Hills Drive intersection. The proposed access will line up directly with the existing Charleston Nursing Home access.

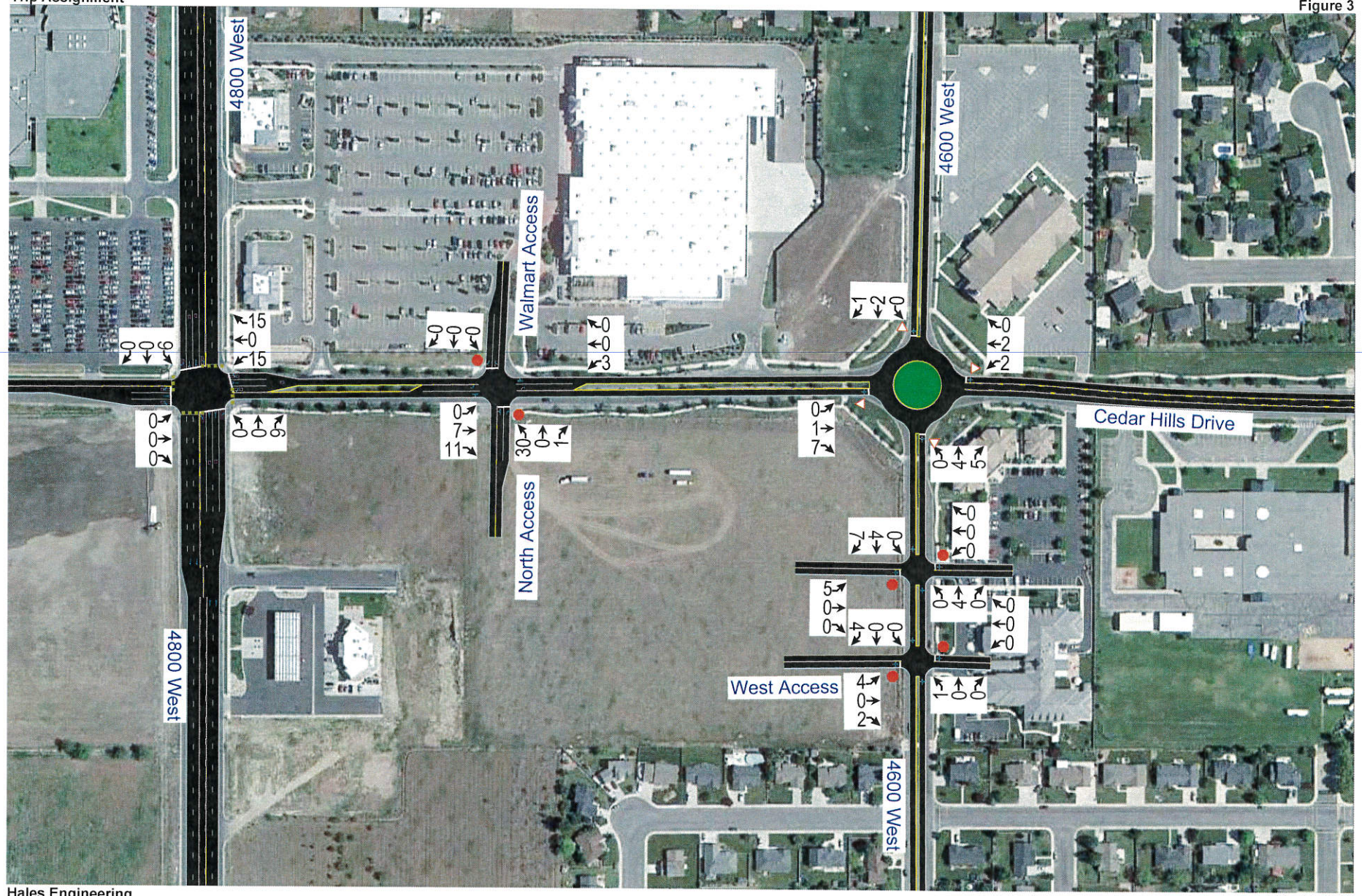
F. Parking

Parking generation for a "congregate care facility," a surrogate for this site, shows that for the two sites studied, one had a peak hour demand of 0.41 vehicles per dwelling unit, and the other had 0.48 vehicles per dwelling unit. Several locations in Sandy, Utah have parking rates of 1.0 spaces for senior housing (Rosegate being one of them). Experience in Sandy at Silver Pines, Sunrise, Ranches and Wentworth show that low parking rates for these types of projects has not created a parking issue.

Based on our experience and that of neighboring jurisdictions, it is our recommendation that 1.0 space per unit will more than adequately meet the parking needs for patrons, employees and visitors.

Cedar Hills - Senior Living Facility TIS
Trip Assignment

a.m. Peak Hour
Figure 3



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IV. EXISTING (2014) PLUS PROJECT CONDITIONS

A. Purpose

This section of the report examines the traffic impacts of the proposed project at each of the study intersections. The net trips generated by the proposed development were combined with the existing background traffic volumes to create the existing plus project conditions. This scenario provides valuable insight into the potential impacts of the proposed project on background traffic conditions.

B. Traffic Volumes

Project trips were assigned to the study intersections based on the trip distribution percentages discussed in Chapter III and permitted intersection turning movements. The existing (2014) plus project a.m. peak hour volumes were generated for the study intersections and are shown in Figure 4.

C. Level of Service Analysis

Using Synchro/SimTraffic, which follow the Highway Capacity Manual (HCM) 2010 methodology introduced in Chapter I, the p.m. peak hour LOS was computed for each study intersection. The results of this analysis are reported in Table 4 (see Appendix B for the detailed LOS reports). Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. As shown in Table 4, all study intersections are anticipated to continue to operate at acceptable levels of service during the a.m. peak hour.

D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. The queue reports can be found in Appendix D. No significant queuing is anticipated.

E. Mitigation Measures

No mitigation measures are recommended.

Table 4 Existing (2014) Plus Project a.m. Peak Hour Level of Service

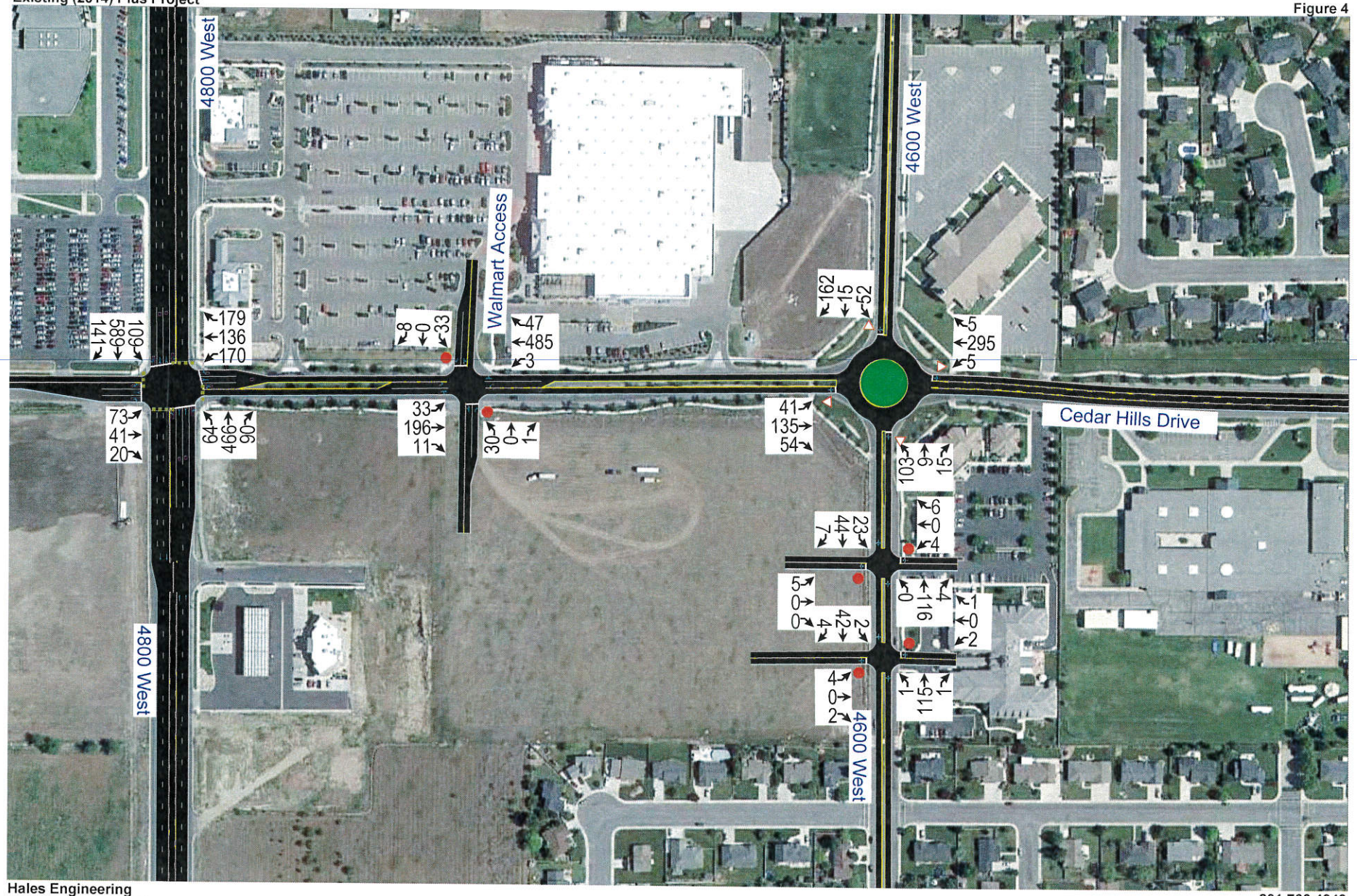
Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Cedar Hills Drive / 4800 West	Signal	-	-	-	13.9	B
Walmart & North Access / Cedar Hills Drive	NB & SB Stop	NB	12.0	B	-	-
4600 West / Cedar Hills Drive	Round-about	-	-	-	3.6	A
Lexington Heights & North Project Access / 4600 West	EB & WB Stop	EB	4.6	A	-	-
West Project & Charleston Access / 4600 West	EB & WB Stop	EB	4.3	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, February 2015

Cedar Hills - Senior Living Facility TIS
Existing (2014) Plus Project

a.m. Peak Hour
Figure 4



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APPENDIX A

Turning Movement Counts

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

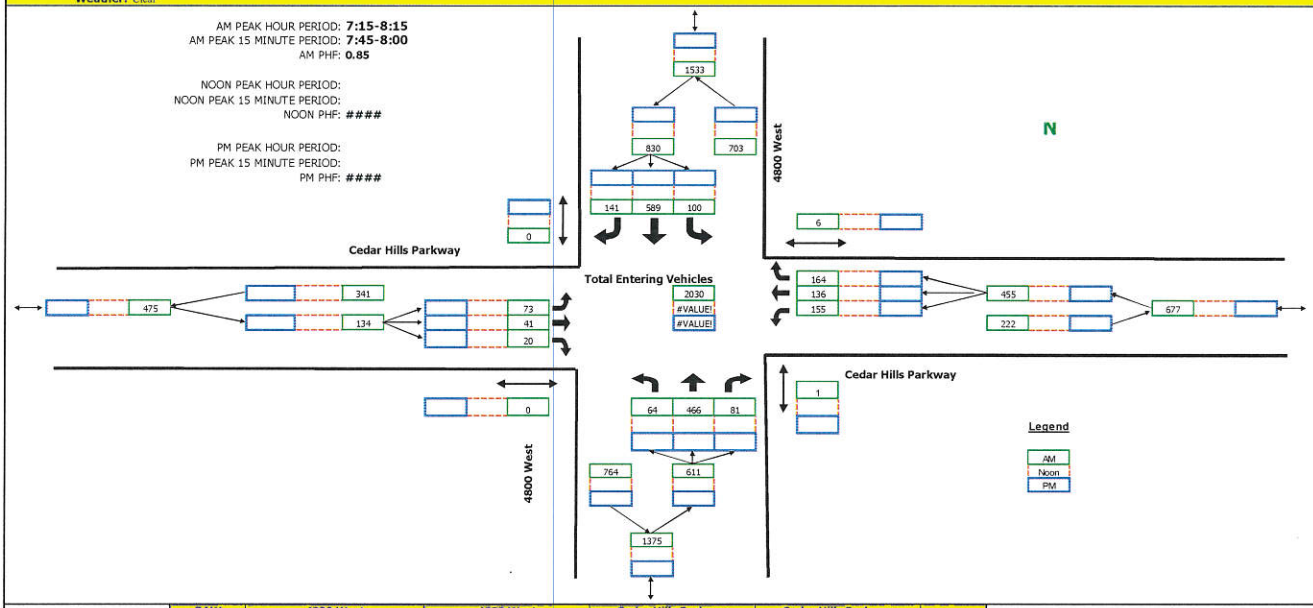
Intersection: 4800 West / Cedar Hills Parkway
North/South: 4800 West
East/West: Cedar Hills Parkway
Jurisdiction: Cedar Hills
Project Title: Cedar Hills Senior Living Facility TIS
Project No: P543
Weather: Clear

Date: 1-23-14, Thu
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: **7:15-8:15**
AM PEAK 15 MINUTE PERIOD: **7:45-8:00**
AM PHF: **0.85**

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: **####**

PM PEAK HOUR PERIOD:
PM PEAK 15 MINUTE PERIOD:
PM PHF: **####**



RAW COUNT SUMMARIES	4800 West Northbound Left	Thru	Right	Peds	4800 West Southbound Left	Thru	Right	Peds	Cedar Hills Parkway Eastbound Left	Thru	Right	Peds	Cedar Hills Parkway Westbound Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	7	68	9	0	12	92	1	0	8	2	3	0	33	1	18	0	254
7:15-7:30	13	90	11	0	19	109	21	0	14	8	4	0	26	18	41	4	374
7:30-7:45	43	103	17	1	24	88	107	0	28	19	10	0	33	95	25	2	592
7:45-8:00	6	126	27	0	36	206	9	0	29	12	5	0	62	21	56	0	595
8:00-8:15	2	147	26	0	21	186	4	0	2	2	1	0	34	2	42	0	469
8:15-8:30	1	99	14	0	10	144	1	0	1	2	1	0	44	2	34	0	353
8:30-8:45	1	82	12	0	11	101	3	0	1	2	0	0	23	1	25	0	262
8:45-9:00	2	85	15	0	0	0	0	0	1	0	0	0	0	0	0	0	103
NOON PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

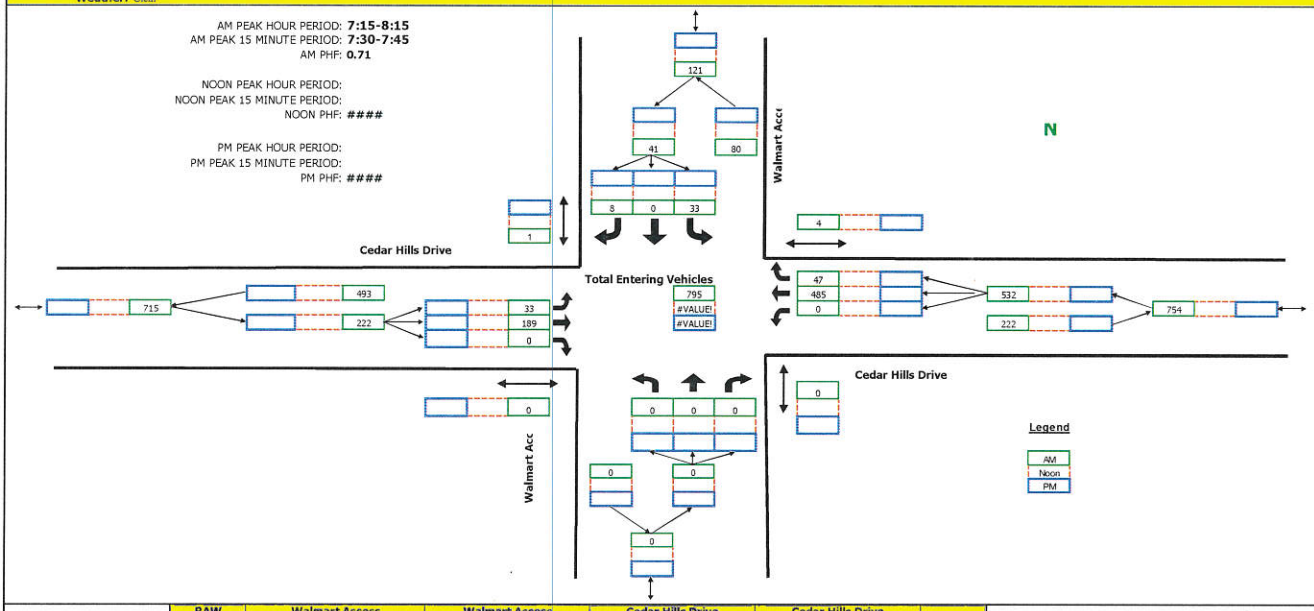
Intersection: Walmart Access / Cedar Hills Drive
North/South: Walmart Access
East/West: Cedar Hills Drive
Jurisdiction: Cedar Hills
Project Title: Cedar Hills Senior Living Facility TIS
Project No: P543
Weather: Clear

Date: 1-23-14, Thu
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: **7:15-8:15**
AM PEAK 15 MINUTE PERIOD: **7:30-7:45**
AM PHF: **0.71**

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: **####**

PM PEAK HOUR PERIOD:
PM PEAK 15 MINUTE PERIOD:
PM PHF: **####**



RAW COUNT SUMMARIES	Walmart Access Northbound Left	Thru	Right	Peds	Walmart Access Southbound Left	Thru	Right	Peds	Cedar Hills Drive Eastbound Left	Thru	Right	Peds	Cedar Hills Drive Westbound Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	0	0	0	0	6	0	5	0	4	20	0	0	0	47	7	0	89
7:15-7:30	0	0	0	0	9	0	2	0	4	35	0	0	0	99	8	0	157
7:30-7:45	0	0	0	0	13	0	3	0	5	55	0	0	0	185	18	0	279
7:45-8:00	0	0	0	0	6	0	2	1	15	59	0	0	0	135	11	4	228
8:00-8:15	0	0	0	0	5	0	1	0	9	40	0	0	0	66	10	0	131
8:15-8:30	0	0	0	0	10	0	4	0	7	20	0	0	0	72	6	0	119
8:30-8:45	0	0	0	0	9	0	1	0	5	18	0	0	0	44	5	0	82
8:45-9:00	0	0	0	0	7	0	2	0	4	23	0	0	0	60	8	0	104
NOON PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

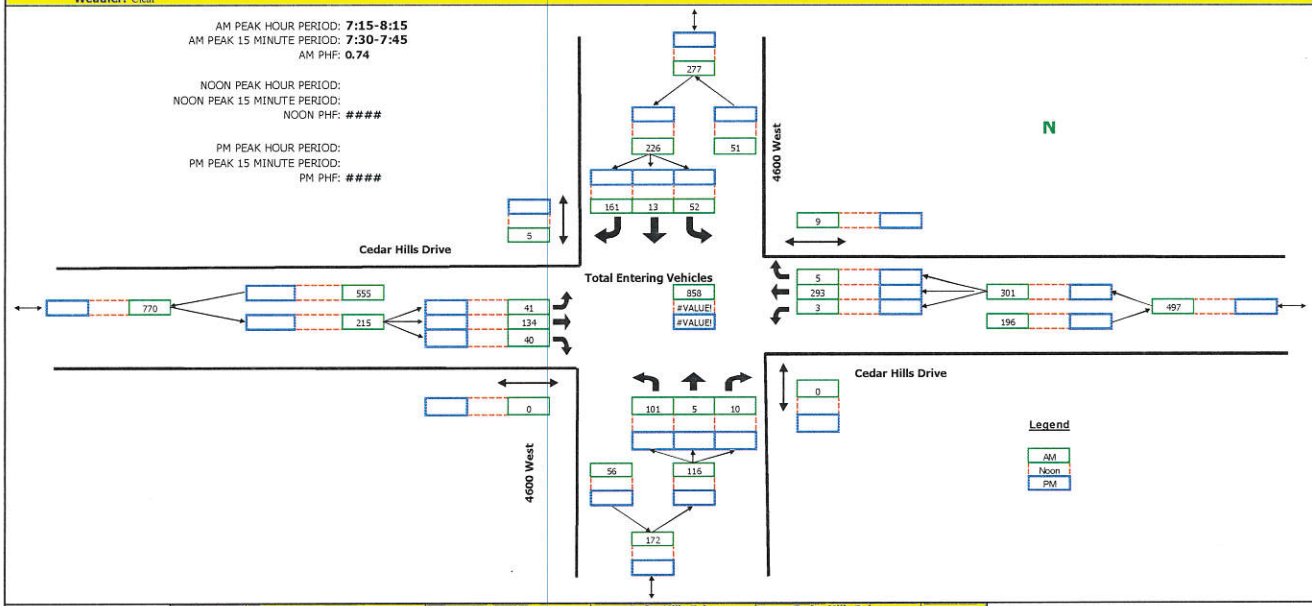
Intersection: 4600 West / Cedar Hills Drive
North/South: 4600 West
East/West: Cedar Hills Drive
Jurisdiction: Cedar Hills
Project Title: Cedar Hills Senior Living Facility TIS
Project No: P543
Weather: Clear

Date: 1-23-14, Thu
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: **7:15-8:15**
AM PEAK 15 MINUTE PERIOD: **7:30-7:45**
AM PHF: **0.74**

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: **####**

PM PEAK HOUR PERIOD:
PM PEAK 15 MINUTE PERIOD:
PM PHF: **####**



RAW COUNT SUMMARIES	4600 West Northbound				4600 West Southbound				Cedar Hills Drive Eastbound				Cedar Hills Drive Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	10	3	1	0	1	2	18	0	3	13	8	0	0	25	1	0	85
7:15-7:30	20	1	1	0	1	1	35	4	5	25	7	0	0	55	0	3	151
7:30-7:45	35	2	2	0	1	3	75	1	16	47	8	0	0	101	0	1	290
7:45-8:00	24	1	6	0	44	6	34	0	12	38	16	0	0	94	2	2	277
8:00-8:15	22	1	1	0	6	3	17	0	8	24	9	0	3	43	3	3	140
8:15-8:30	10	0	0	0	2	1	30	0	5	18	6	0	0	35	1	1	108
8:30-8:45	7	2	0	0	1	1	17	0	5	15	10	0	0	24	1	0	83
8:45-9:00	10	0	3	1	1	0	16	0	2	16	10	0	2	39	1	1	100
NOON PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

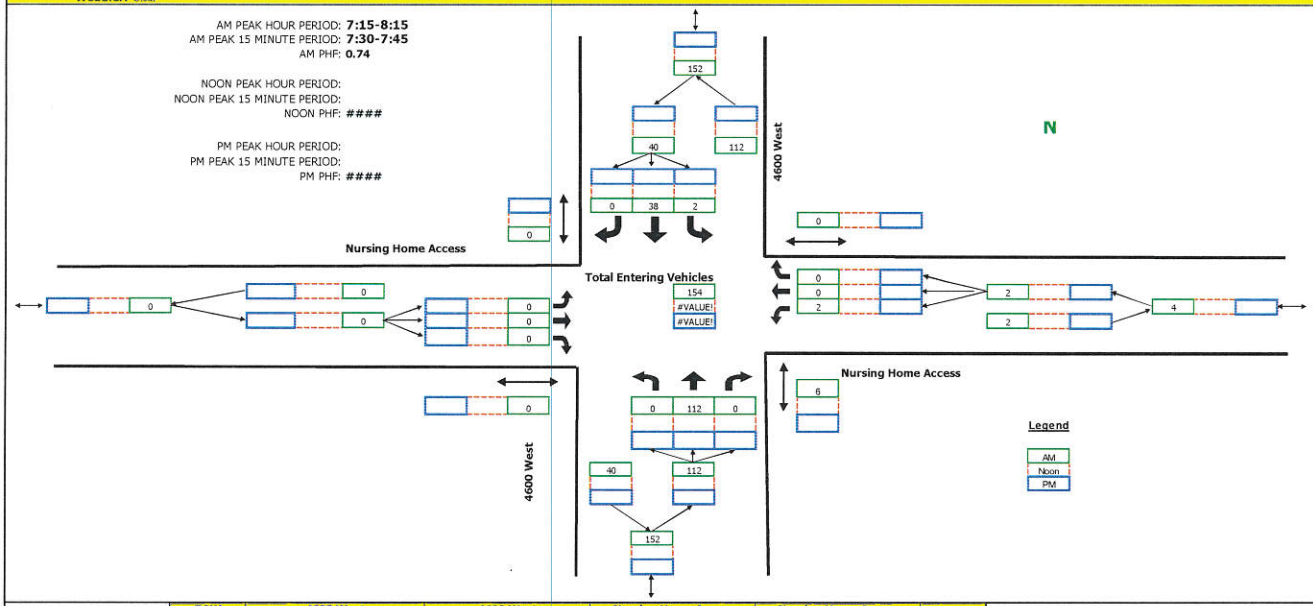
Intersection: 4600 West / Nursing Home Access
North/South: 4600 West
East/West: Nursing Home Access
Jurisdiction: Cedar Hills
Project Title: Cedar Hills Senior Living Facility TIS
Project No: P543
Weather: Clear

Date: 1-23-14, Thu
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: **7:15-8:15**
AM PEAK 15 MINUTE PERIOD: **7:30-7:45**
AM PHF: **0.74**

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: **####**

PM PEAK HOUR PERIOD:
PM PEAK 15 MINUTE PERIOD:
PM PHF: **####**



RAW COUNT SUMMARIES	4600 West Northbound Left	Thru	Right	Peds	4600 West Southbound Left	Thru	Right	Peds	Nursing Home Access Eastbound Left	Thru	Right	Peds	Nursing Home Access Westbound Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
7:00-7:15	0	11	0	1	3	7	0	0	0	0	0	0	0	0	0	0	21
7:15-7:30	0	20	0	5	0	2	0	0	0	0	0	0	0	0	0	0	22
7:30-7:45	0	41	0	1	0	11	0	0	0	0	0	0	0	0	0	0	52
7:45-8:00	0	28	0	0	1	15	0	0	0	0	0	0	0	0	0	0	44
8:00-8:15	0	23	0	0	1	10	0	0	0	0	0	0	2	0	0	0	36
8:15-8:30	0	10	0	0	0	7	0	0	0	0	0	0	0	0	0	0	17
8:30-8:45	0	10	0	0	1	8	0	0	0	0	0	0	0	0	0	0	19
8:45-9:00	0	10	1	3	0	10	0	0	0	0	0	0	1	0	0	0	22
NOON PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

HALES ENGINEERING
innovative transportation solutions

APPENDIX B

LOS Results

HALES ENGINEERING
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SimTraffic LOS Report

Project: Cedar Hills - Senior Living Facility TIS
Analysis Period: *Existing 2014 Conditions*
Time Period: *a.m. peak hour* **Project #:** *UT14-558*

Intersection: 4800 West & Cedar Hills Drive
Type: Signalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
NB	L	64	63	99	15.3	*B*
	T	466	474	102	15.4	*B*
	R	81	83	103	2.6	*A*
	Subtotal	611	620	101	13.7	*B*
SB	L	100	99	99	15.3	*B*
	T	589	581	99	14.6	*B*
	R	141	149	105	3.8	*A*
	Subtotal	830	829	100	12.7	*B*
EB	L	73	76	104	23.7	*C*
	T	41	44	108	28.9	*C*
	R	20	18	89	3.7	*A*
	Subtotal	134	138	103	22.7	*C*
WB	L	155	153	99	17.3	*B*
	T	174	178	103	17.4	*B*
	R	164	168	102	6.1	*A*
	Subtotal	493	499	101	13.6	*B*
Total		2,067	2,086	101	13.9	*B*

Intersection: Cedar Hills Drive & Walmart Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served Avg	Volume Served %	Delay/Veh (sec) Avg	Delay/Veh (sec) LOS
SB	L	33	37	112	13.6	*B*
	R	8	10	125	6.3	*A*
	Subtotal	***41***	***47***	***115***	***12.0***	***B***
EB	L	33	32	97	5.6	*A*
	T	196	202	103	0.9	*A*
	Subtotal	229	234	102	1.5	*A*
WB	T	510	514	101	1.3	*A*
	R	47	49	105	1.0	*A*
	Subtotal	557	563	101	1.3	*A*
Total		828	844	102	1.9	*A*

HALES ENGINEERING
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SimTraffic LOS Report

Project: Cedar Hills - Senior Living Facility TIS
Analysis Period: *Existing 2014 Conditions*
Time Period: *a.m. peak hour* **Project #:** *UT14-558*

Intersection: 4600 West & Cedar Hills Drive
Type: Roundabout

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	103	100	97	2.9	A
	T	10	10	100	1.6	A
	R	10	11	107	2.3	A
	Subtotal	123	121	98	2.7	A
SB	L	52	52	100	4.8	A
	T	13	13	102	5.6	A
	R	161	163	101	4.9	A
	Subtotal	226	228	101	4.9	A
EB	L	41	43	106	2.6	A
	T	134	139	103	3.1	A
	R	47	48	103	2.7	A
	Subtotal	222	230	104	2.9	A
WB	L	3	2	62	2.7	A
	T	293	300	102	3.9	A
	R	5	5	105	3.5	A
	Subtotal	301	307	102	3.9	A
Total		872	886	102	3.7	A

Intersection: 4600 West & Lexington Heights Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	116	116	100	0.1	A
	R	4	5	118	0.0	A
	Subtotal	120	121	101	0.1	A
SB	L	23	25	108	2.1	A
	T	44	42	97	0.4	A
	Subtotal	67	67	100	1.0	A
WB	L	4	4	94	4.4	A
	R	6	6	96	2.9	A
	Subtotal	***10***	***10***	***100***	***3.5***	***A***
Total		198	198	100	0.6	A

HALES ENGINEERING
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SimTraffic LOS Report

Project: Cedar Hills - Senior Living Facility TIS
Analysis Period: *Existing 2014 Conditions*
Time Period: *a.m. peak hour* **Project #:** *UT14-558*

Intersection: 4600 West & Charleston Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	115	116	101	0.1	A
	R	1	1	100	0.0	A
	Subtotal	116	117	101	0.1	A
SB	L	2	1	44	1.9	A
	T	44	44	99	0.1	A
	Subtotal	46	45	98	0.1	A
WB	L	2	1	44	6.0	A
	R	1	1	100	3.7	A
	Subtotal	***3***	***2***	***67***	***4.9***	***A***
Total		166	164	99	0.2	A

Intersection:
Type:

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
Total						

1: 4800 West & Cedar Hills Drive Performance by movement Interval #1 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	3.1	3.6	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.1	0.2
Total Delay (hr)	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0.4	0.0	0.1	0.5	0.0
Total Del/Veh (s)	19.7	28.0	3.9	16.0	15.8	5.3	13.4	12.7	2.5	12.9	12.6	3.4
Vehicles Entered	16	10	4	32	40	39	15	114	21	23	141	34
Vehicles Exited	16	10	4	33	40	38	15	114	21	22	140	34
Hourly Exit Rate	64	40	16	132	160	152	60	456	84	88	560	136
Input Volume	64	36	18	137	153	145	60	439	76	94	554	133
% of Volume	100	111	89	96	105	105	100	104	111	94	101	102

1: 4800 West & Cedar Hills Drive Performance by movement Interval #1 7:15

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.3
Total Delay (hr)	1.7
Total Del/Veh (s)	12.1
Vehicles Entered	489
Vehicles Exited	487
Hourly Exit Rate	1948
Input Volume	1909
% of Volume	102

1: 4800 West & Cedar Hills Drive Performance by movement Interval #2 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	3.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.2	0.2
Total Delay (hr)	0.2	0.1	0.0	0.3	0.3	0.1	0.1	0.7	0.0	0.1	0.8	0.1
Total Del/Veh (s)	25.5	25.6	3.8	17.7	18.8	7.3	18.5	19.3	3.4	16.5	17.7	4.3
Vehicles Entered	26	14	6	51	57	54	20	137	23	30	162	44
Vehicles Exited	24	13	6	49	57	54	20	137	23	30	160	44
Hourly Exit Rate	96	52	24	196	228	216	80	548	92	120	640	176
Input Volume	99	55	27	209	235	222	75	548	95	118	693	166
% of Volume	97	95	89	94	97	97	107	100	97	102	92	106

1: 4800 West & Cedar Hills Drive Performance by movement Interval #2 7:30

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.3
Total Delay (hr)	2.9
Total Del/Veh (s)	16.2
Vehicles Entered	624
Vehicles Exited	617
Hourly Exit Rate	2468
Input Volume	2542
% of Volume	97

1: 4800 West & Cedar Hills Drive Performance by movement Interval #3 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	3.1	4.1	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.2	0.2
Total Delay (hr)	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0.5	0.0	0.1	0.5	0.0
Total Del/Veh (s)	19.6	26.7	3.5	16.6	16.0	5.3	14.2	14.6	2.6	14.9	13.6	3.6
Vehicles Entered	16	11	4	35	40	40	13	114	19	23	139	36
Vehicles Exited	18	11	4	35	42	41	13	114	19	24	140	36
Hourly Exit Rate	72	44	16	140	168	164	52	456	76	96	560	144
Input Volume	64	36	18	137	153	145	60	439	76	94	554	133
% of Volume	112	122	89	102	110	113	87	104	100	102	101	108

1: 4800 West & Cedar Hills Drive Performance by movement Interval #3 7:45

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.3
Total Delay (hr)	1.8
Total Del/Veh (s)	13.0
Vehicles Entered	490
Vehicles Exited	497
Hourly Exit Rate	1988
Input Volume	1909
% of Volume	104

1: 4800 West & Cedar Hills Drive Performance by movement Interval #4 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	3.4	4.1	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.1	0.2
Total Delay (hr)	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0.4	0.0	0.1	0.5	0.0
Total Del/Veh (s)	22.4	25.7	2.8	15.9	16.0	5.2	13.0	13.3	2.0	13.8	12.5	3.6
Vehicles Entered	17	9	3	35	40	35	15	111	21	23	140	34
Vehicles Exited	18	9	4	36	40	35	15	110	20	23	141	34
Hourly Exit Rate	72	36	16	144	160	140	60	440	80	92	564	136
Input Volume	64	36	18	137	153	145	60	439	76	94	554	133
% of Volume	112	100	89	105	105	97	100	100	105	98	102	102

1: 4800 West & Cedar Hills Drive Performance by movement Interval #4 8:00

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.3
Total Delay (hr)	1.7
Total Del/Veh (s)	12.3
Vehicles Entered	483
Vehicles Exited	485
Hourly Exit Rate	1940
Input Volume	1909
% of Volume	102

1: 4800 West & Cedar Hills Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.3	3.1	3.8	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.2	0.2
Total Delay (hr)	0.5	0.4	0.0	0.7	0.9	0.3	0.3	2.0	0.1	0.4	2.4	0.2
Total Del/Veh (s)	23.7	28.9	3.7	17.3	17.4	6.1	15.3	15.4	2.6	15.3	14.6	3.8
Vehicles Entered	76	44	18	153	178	168	63	476	84	99	581	149
Vehicles Exited	76	44	18	153	178	168	63	474	83	99	581	149
Hourly Exit Rate	76	44	18	153	178	168	63	474	83	99	581	149
Input Volume	73	41	20	155	174	164	64	466	81	100	589	141
% of Volume	104	108	89	99	103	102	99	102	103	99	99	105

1: 4800 West & Cedar Hills Drive Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.3
Total Delay (hr)	8.1
Total Del/Veh (s)	13.9
Vehicles Entered	2089
Vehicles Exited	2086
Hourly Exit Rate	2086
Input Volume	2067
% of Volume	101

2: Cedar Hills Drive & Walmart Access Performance by movement Interval #1 7:15

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	5.9	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.8	0.9	1.0	0.7	11.1	8.0	1.7
Vehicles Entered	8	45	115	10	9	1	188
Vehicles Exited	8	45	115	10	9	1	188
Hourly Exit Rate	32	180	460	40	36	4	752
Input Volume	29	177	451	41	29	7	734
% of Volume	110	102	102	98	124	57	102

2: Cedar Hills Drive & Walmart Access Performance by movement Interval #2 7:30

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.0	0.0	0.0	0.2	3.9	0.1
Total Delay (hr)	0.0	0.0	0.1	0.0	0.1	0.0	0.2
Total Del/Veh (s)	7.2	0.9	1.7	1.3	18.3	6.7	2.6
Vehicles Entered	11	64	168	17	13	5	278
Vehicles Exited	11	64	166	17	12	5	275
Hourly Exit Rate	44	256	664	68	48	20	1100
Input Volume	45	255	689	64	45	11	1109
% of Volume	98	100	96	106	107	182	99

2: Cedar Hills Drive & Walmart Access Performance by movement Interval #3 7:45

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	5.9	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.8	0.9	1.2	0.8	11.6	4.5	1.7
Vehicles Entered	7	47	117	12	8	1	192
Vehicles Exited	7	46	119	13	8	2	195
Hourly Exit Rate	28	184	476	52	32	8	780
Input Volume	29	177	451	41	29	7	734
% of Volume	97	104	106	127	110	114	106

2: Cedar Hills Drive & Walmart Access Performance by movement Interval #4 8:00

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	4.8	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.4	0.8	1.0	0.7	9.0	6.2	1.4
Vehicles Entered	6	46	115	10	8	2	187
Vehicles Exited	6	46	114	10	8	2	186
Hourly Exit Rate	24	184	456	40	32	8	744
Input Volume	29	177	451	41	29	7	734
% of Volume	83	104	101	98	110	114	101

2: Cedar Hills Drive & Walmart Access Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.1	4.1	0.1
Total Delay (hr)	0.0	0.1	0.2	0.0	0.1	0.0	0.5
Total Del/Veh (s)	5.6	0.9	1.3	1.0	13.6	6.3	1.9
Vehicles Entered	32	202	514	49	37	10	844
Vehicles Exited	32	202	514	49	37	10	844
Hourly Exit Rate	32	202	514	49	37	10	844
Input Volume	33	196	510	47	33	8	828
% of Volume	97	103	101	105	112	125	102

3: 4600 West & Cedar Hills Drive Performance by movement Interval #1 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.3	0.2	0.0	0.0	0.0	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.3	2.8	2.6	1.9	3.2	3.1	2.4	1.3	2.0	3.9	3.7	3.4
Vehicles Entered	9	32	10	1	69	1	21	2	3	10	3	35
Vehicles Exited	9	32	10	1	68	1	21	2	3	10	3	35
Hourly Exit Rate	36	128	40	4	272	4	84	8	12	40	12	140
Input Volume	36	119	41	3	259	4	91	11	9	46	11	142
% of Volume	100	108	98	133	105	100	92	73	133	87	109	99

3: 4600 West & Cedar Hills Drive Performance by movement Interval #1 7:15

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.2
Total Del/Veh (s)	3.0
Vehicles Entered	196
Vehicles Exited	195
Hourly Exit Rate	780
Input Volume	772
% of Volume	101

3: 4600 West & Cedar Hills Drive Performance by movement Interval #2 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.3	0.4	0.0	0.0	0.1	0.2	0.4	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	2.6	3.5	3.1	1.9	4.8	4.9	3.2	3.2	3.0	6.1	8.6	6.3
Vehicles Entered	16	45	15	1	96	2	36	2	3	20	4	56
Vehicles Exited	15	44	15	1	95	2	36	2	3	19	4	55
Hourly Exit Rate	60	176	60	4	380	8	144	8	12	76	16	220
Input Volume	55	181	64	4	396	7	139	7	14	70	18	218
% of Volume	109	97	94	100	96	114	104	114	86	109	89	101

3: 4600 West & Cedar Hills Drive Performance by movement Interval #2 7:30

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.4
Total Del/Veh (s)	4.6
Vehicles Entered	296
Vehicles Exited	291
Hourly Exit Rate	1164
Input Volume	1173
% of Volume	99

3: 4600 West & Cedar Hills Drive Performance by movement Interval #3 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0		0.3	0.2	0.0	0.0	0.0	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	2.6	3.0	2.4		3.5	2.5	2.6	0.9	3.1	4.4	3.9	4.7
Vehicles Entered	9	31	12	0	69	1	20	3	2	11	2	37
Vehicles Exited	10	32	13	0	70	1	21	3	2	11	2	38
Hourly Exit Rate	40	128	52	0	280	4	84	12	8	44	8	152
Input Volume	36	119	41	3	259	4	91	11	9	46	11	142
% of Volume	111	108	127	0	108	100	92	109	89	96	73	107

3: 4600 West & Cedar Hills Drive Performance by movement Interval #3 7:45

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.2
Total Del/Veh (s)	3.5
Vehicles Entered	197
Vehicles Exited	203
Hourly Exit Rate	812
Input Volume	772
% of Volume	105

3: 4600 West & Cedar Hills Drive Performance by movement Interval #4 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0		0.2	0.1	0.0	0.0	0.0	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.6	2.7	2.4		3.2	2.2	2.6	1.3	2.2	3.4	3.9	3.8
Vehicles Entered	9	31	12	0	66	1	22	3	2	13	4	36
Vehicles Exited	9	31	11	0	67	1	22	3	2	13	4	36
Hourly Exit Rate	36	124	44	0	268	4	88	12	8	52	16	144
Input Volume	36	119	41	3	259	4	91	11	9	46	11	142
% of Volume	100	104	107	0	103	100	97	109	89	113	145	101

3: 4600 West & Cedar Hills Drive Performance by movement Interval #4 8:00

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.2
Total Del/Veh (s)	3.1
Vehicles Entered	199
Vehicles Exited	199
Hourly Exit Rate	796
Input Volume	772
% of Volume	103

3: 4600 West & Cedar Hills Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.3	0.2	0.0	0.0	0.0	0.2	0.2	0.2
Total Delay (hr)	0.0	0.1	0.0	0.0	0.3	0.0	0.1	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	2.6	3.1	2.7	2.7	3.9	3.5	2.9	1.6	2.3	4.8	5.6	4.9
Vehicles Entered	43	138	49	2	300	5	100	10	11	53	13	163
Vehicles Exited	43	139	48	2	300	5	100	10	11	52	13	163
Hourly Exit Rate	43	139	48	2	300	5	100	10	11	52	13	163
Input Volume	41	134	47	3	293	5	103	10	10	52	13	161
% of Volume	106	103	103	62	102	105	97	100	107	100	102	101

3: 4600 West & Cedar Hills Drive Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.9
Total Del/Veh (s)	3.7
Vehicles Entered	887
Vehicles Exited	886
Hourly Exit Rate	886
Input Volume	872
% of Volume	102

4: 4600 West & Lexington Heights Access Performance by movement Interval #1 7:15

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.8	2.0	0.1	0.0	2.1	0.3	0.6
Vehicles Entered	1	2	25	1	6	8	43
Vehicles Exited	1	2	25	1	6	9	44
Hourly Exit Rate	4	8	100	4	24	36	176
Input Volume	4	6	105	4	22	38	179
% of Volume	100	133	95	100	109	95	98

4: 4600 West & Lexington Heights Access Performance by movement Interval #2 7:30

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.8	3.5	0.1	0.0	1.9	0.5	0.6
Vehicles Entered	1	2	41	1	6	13	64
Vehicles Exited	1	2	40	1	7	13	64
Hourly Exit Rate	4	8	160	4	28	52	256
Input Volume	5	7	151	5	27	60	255
% of Volume	80	114	106	80	104	87	100

4: 4600 West & Lexington Heights Access Performance by movement Interval #3 7:45

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.6	3.1	0.1	0.0	1.9	0.3	0.5
Vehicles Entered	1	1	24	2	7	10	45
Vehicles Exited	1	1	25	2	7	10	46
Hourly Exit Rate	4	4	100	8	28	40	184
Input Volume	4	6	105	4	22	38	179
% of Volume	100	67	95	200	127	105	103

4: 4600 West & Lexington Heights Access Performance by movement Interval #4 8:00

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.3	3.5	0.1	0.1	2.1	0.3	0.5
Vehicles Entered	1	1	27	2	6	10	47
Vehicles Exited	1	1	26	2	6	10	46
Hourly Exit Rate	4	4	104	8	24	40	184
Input Volume	4	6	105	4	22	38	179
% of Volume	100	67	99	200	109	105	103

4: 4600 West & Lexington Heights Access Performance by movement Entire Run

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.4	2.9	0.1	0.0	2.1	0.4	0.6
Vehicles Entered	4	6	116	5	25	42	198
Vehicles Exited	4	6	116	5	25	42	198
Hourly Exit Rate	4	6	116	5	25	42	198
Input Volume	4	6	116	4	23	44	198
% of Volume	94	96	100	118	108	97	100

5: 4600 West & Charleston Access Performance by movement Interval #1 7:15

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.1			0.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		1.4	0.1			0.2	0.2
Vehicles Entered	0	1	23	0	0	10	34
Vehicles Exited	0	1	24	0	0	10	35
Hourly Exit Rate	0	4	96	0	0	40	140
Input Volume	2	1	102	1	2	40	148
% of Volume	0	400	94	0	0	100	95

5: 4600 West & Charleston Access Performance by movement Interval #2 7:30

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)			0.2		0.0	0.0	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)			0.2		0.8	0.2	0.3
Vehicles Entered	0	0	41	0	1	14	56
Vehicles Exited	0	0	41	0	1	13	55
Hourly Exit Rate	0	0	164	0	4	52	220
Input Volume	3	1	155	1	3	57	220
% of Volume	0	0	106	0	133	91	100

5: 4600 West & Charleston Access Performance by movement Interval #3 7:45

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)			0.1			0.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)			0.1			0.1	0.2
Vehicles Entered	0	0	24	0	0	11	35
Vehicles Exited	0	0	24	0	0	11	35
Hourly Exit Rate	0	0	96	0	0	44	140
Input Volume	2	1	102	1	2	40	148
% of Volume	0	0	94	0	0	110	95

5: 4600 West & Charleston Access Performance by movement Interval #4 8:00

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)			0.1			0.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)			0.1			0.1	0.2
Vehicles Entered	0	0	26	0	0	10	36
Vehicles Exited	0	0	26	0	0	10	36
Hourly Exit Rate	0	0	104	0	0	40	144
Input Volume	2	1	102	1	2	40	148
% of Volume	0	0	102	0	0	100	97

5: 4600 West & Charleston Access Performance by movement Entire Run

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.2	0.1	0.0	0.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.0	3.7	0.1	0.0	1.9	0.1	0.2
Vehicles Entered	1	1	115	1	1	44	163
Vehicles Exited	1	1	116	1	1	44	164
Hourly Exit Rate	1	1	116	1	1	44	164
Input Volume	2	1	115	1	2	44	166
% of Volume	44	100	101	100	44	99	99

Total Zone Performance By Interval

Interval Start	7:15	7:30	7:45	8:00	All
Denied Delay (hr)	0.1	0.1	0.1	0.1	0.3
Denied Del/Veh (s)	0.4	0.4	0.4	0.4	0.4
Total Delay (hr)	2.2	3.9	2.4	2.2	10.9
Total Del/Veh (s)	14.1	18.6	14.7	14.1	16.6
Vehicles Entered	537	718	533	533	2323
Vehicles Exited	534	693	562	535	2322
Hourly Exit Rate	2136	2772	2248	2140	2322
Input Volume	7051	9708	7051	7051	7715
% of Volume	30	29	32	30	30

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	76	57	28	94	126	79	54	121	105	35	74	132
Average Queue (ft)	38	31	11	50	63	39	26	78	48	17	37	90
95th Queue (ft)	81	66	35	92	133	83	54	128	111	39	73	138
Link Distance (ft)	1025				450			283	283			1110
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	60		60	180			180	170	
Storage Blk Time (%)	3	0		5	8	1		0				0
Queuing Penalty (veh)	1	0		12	24	2		0				0

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #1

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	112	51
Average Queue (ft)	53	26
95th Queue (ft)	109	51
Link Distance (ft)	1110	1110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	100	69	41	116	191	114	89	184	146	42	80	185
Average Queue (ft)	54	39	15	73	99	65	39	118	84	21	43	118
95th Queue (ft)	104	77	44	123	186	126	86	188	157	44	78	184
Link Distance (ft)	1025				450			283	283			1110
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	60		60	180			180	170	
Storage Blk Time (%)	8	2	0	13	17	3	0	1	0			2
Queuing Penalty (veh)	7	2	0	54	73	14	0	1	0			2

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #2

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	162	55
Average Queue (ft)	88	30
95th Queue (ft)	164	56
Link Distance (ft)	1110	1110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	75	67	31	106	118	89	49	140	119	38	73	143
Average Queue (ft)	42	35	12	61	62	41	25	87	58	19	42	94
95th Queue (ft)	78	73	36	111	131	91	54	148	123	40	76	150
Link Distance (ft)	1025				450			283	283			1110
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	60		60	180			180	170	
Storage Blk Time (%)	1	2		6	9	1		0	0			0
Queuing Penalty (veh)	1	1		17	26	2		0	0			0

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #3

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	128	46
Average Queue (ft)	66	25
95th Queue (ft)	128	51
Link Distance (ft)	1110	1110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	74	55	31	98	107	89	59	129	87	28	76	142
Average Queue (ft)	44	27	10	57	59	42	30	84	47	16	35	90
95th Queue (ft)	84	62	34	102	112	90	60	135	96	32	73	154
Link Distance (ft)	1025				450			283	283			1110
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	60		60	180			180	170	
Storage Blk Time (%)	3	1		6	6	1						0
Queuing Penalty (veh)	1	1		16	17	2						0

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #4

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	110	49
Average Queue (ft)	58	24
95th Queue (ft)	120	51
Link Distance (ft)	1110	1110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: 4800 West & Cedar Hills Drive, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	109	80	41	118	207	119	93	184	150	45	104	188
Average Queue (ft)	44	33	12	60	71	47	30	91	59	18	39	98
95th Queue (ft)	88	70	37	109	146	101	65	156	127	39	75	160
Link Distance (ft)	1025				450			283	283			1110
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	60		60	180			180	170	
Storage Blk Time (%)	4	1	0	8	10	1	0	0	0			0
Queuing Penalty (veh)	3	1	0	25	35	5	0	0	0			1

Intersection: 1: 4800 West & Cedar Hills Drive, All Intervals

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	169	61
Average Queue (ft)	66	26
95th Queue (ft)	134	53
Link Distance (ft)	1110	1110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Cedar Hills Drive & Walmart Access, Interval #1

Movement	EB	WB	SB	SB
Directions Served	L	TR	LT	R
Maximum Queue (ft)	33	5	46	23
Average Queue (ft)	10	1	24	5
95th Queue (ft)	35	11	50	23
Link Distance (ft)		651	198	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100			100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Cedar Hills Drive & Walmart Access, Interval #2

Movement	EB	WB	SB	SB
Directions Served	L	TR	LT	R
Maximum Queue (ft)	35	3	57	30
Average Queue (ft)	16	0	31	14
95th Queue (ft)	41	4	61	39
Link Distance (ft)		651	198	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100			100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Cedar Hills Drive & Walmart Access, Interval #3

Movement	EB	SB	SB
Directions Served	L	LT	R
Maximum Queue (ft)	31	53	25
Average Queue (ft)	11	26	4
95th Queue (ft)	33	57	21
Link Distance (ft)		198	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 2: Cedar Hills Drive & Walmart Access, Interval #4

Movement	EB	SB	SB
Directions Served	L	LT	R
Maximum Queue (ft)	30	38	26
Average Queue (ft)	8	21	7
95th Queue (ft)	30	47	27
Link Distance (ft)		198	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Cedar Hills Drive & Walmart Access, All Intervals

Movement	EB	WB	SB	SB
Directions Served	L	TR	LT	R
Maximum Queue (ft)	46	6	68	33
Average Queue (ft)	11	0	25	8
95th Queue (ft)	35	6	55	29
Link Distance (ft)		651	198	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100			100
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 3: 4600 West & Cedar Hills Drive, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	27	52	36	58
Average Queue (ft)	8	19	11	33
95th Queue (ft)	31	57	37	62
Link Distance (ft)	651	989	218	774
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: 4600 West & Cedar Hills Drive, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	62	90	56	111
Average Queue (ft)	21	49	27	58
95th Queue (ft)	62	97	59	114
Link Distance (ft)	651	989	218	774
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: 4600 West & Cedar Hills Drive, Interval #3

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	44	70	43	80
Average Queue (ft)	15	25	14	39
95th Queue (ft)	48	71	46	83
Link Distance (ft)	651	989	218	774
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: 4600 West & Cedar Hills Drive, Interval #4

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	38	51	39	65
Average Queue (ft)	12	22	12	35
95th Queue (ft)	40	60	40	66
Link Distance (ft)	651	989	218	774
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: 4600 West & Cedar Hills Drive, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	69	101	62	118
Average Queue (ft)	14	29	16	41
95th Queue (ft)	47	76	48	86
Link Distance (ft)	651	989	218	774
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: 4600 West & Lexington Heights Access, Interval #1

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	30	25
Average Queue (ft)	10	4
95th Queue (ft)	33	22
Link Distance (ft)	107	218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: 4600 West & Lexington Heights Access, Interval #2

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	30	12
Average Queue (ft)	12	2
95th Queue (ft)	35	15
Link Distance (ft)	107	218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: 4600 West & Lexington Heights Access, Interval #3

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	26	16
Average Queue (ft)	5	4
95th Queue (ft)	24	21
Link Distance (ft)	107	218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: 4600 West & Lexington Heights Access, Interval #4

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	29	19
Average Queue (ft)	6	4
95th Queue (ft)	25	21
Link Distance (ft)	107	218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: 4600 West & Lexington Heights Access, All Intervals

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	30	28
Average Queue (ft)	8	4
95th Queue (ft)	30	20
Link Distance (ft)	107	218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: 4600 West & Charleston Access, Interval #1

Movement	WB
Directions Served	LTR
Maximum Queue (ft)	15
Average Queue (ft)	3
95th Queue (ft)	17
Link Distance (ft)	104
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: 4600 West & Charleston Access, Interval #2

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	18	3
Average Queue (ft)	3	0
95th Queue (ft)	17	6
Link Distance (ft)	104	119
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: 4600 West & Charleston Access, Interval #3

Movement	WB
Directions Served	LTR
Maximum Queue (ft)	14
Average Queue (ft)	2
95th Queue (ft)	16
Link Distance (ft)	104
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: 4600 West & Charleston Access, Interval #4

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	12	3
Average Queue (ft)	2	0
95th Queue (ft)	14	6
Link Distance (ft)	104	119
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: 4600 West & Charleston Access, All Intervals

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	29	6
Average Queue (ft)	3	0
95th Queue (ft)	16	4
Link Distance (ft)	104	119
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty, Interval #1: 40
Zone wide Queuing Penalty, Interval #2: 152
Zone wide Queuing Penalty, Interval #3: 46
Zone wide Queuing Penalty, Interval #4: 38
Zone wide Queuing Penalty, All Intervals: 69

HALES ENGINEERING
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SimTraffic LOS Report

Project: Cedar Hills - Senior LIving Facility TIS
Analysis Period: *Existing 2014 Plus Project*
Time Period: *a.m. peak hour* **Project #:** *UT14-558*

Intersection: 4800 West & Cedar Hills Drive
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	64	63	99	16.2	*B*
	T	466	476	102	15.5	*B*
	R	90	90	100	2.8	*A*
	Subtotal	620	629	101	13.8	*B*
SB	L	109	105	96	15.1	*B*
	T	589	589	100	14.7	*B*
	R	141	146	103	3.8	*A*
	Subtotal	839	840	100	12.9	*B*
EB	L	73	66	91	24.5	*C*
	T	41	43	106	31.3	*C*
	R	20	21	104	4.1	*A*
	Subtotal	134	130	97	23.5	*C*
WB	L	170	173	102	17.7	*B*
	T	174	172	99	16.7	*B*
	R	179	182	102	6.5	*A*
	Subtotal	523	527	101	13.5	*B*
Total		2,116	2,126	100	13.9	*B*

Intersection: Cedar Hills Drive & Walmart Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	31	104	12.3	*B*
	R	1	1	100	3.9	*A*
	Subtotal	***31***	***32***	***103***	***12.0***	***B***
SB	L	33	30	91	13.6	*B*
	R	8	11	138	6.3	*A*
	Subtotal	41	41	100	11.6	*B*
EB	L	33	34	103	5.5	*A*
	T	205	201	98	1.0	*A*
	R	11	11	98	1.0	*A*
	Subtotal	249	246	99	1.6	*A*
WB	L	3	3	92	2.5	*A*
	T	510	510	100	1.4	*A*
	R	47	48	103	1.1	*A*
	Subtotal	560	561	100	1.4	*A*
Total		881	880	100	2.3	*A*

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SimTraffic LOS Report

Project: Cedar Hills - Senior Living Facility TIS
Analysis Period: *Existing 2014 Plus Project*
Time Period: *a.m. peak hour* **Project #:** *UT14-558*

Intersection: 4600 West & Cedar Hills Drive
Type: Roundabout

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	103	103	100	2.7	A
	T	15	13	87	1.9	A
	R	15	16	108	2.6	A
	Subtotal	133	132	99	2.6	A
SB	L	52	55	106	4.6	A
	T	15	13	88	4.5	A
	R	162	163	101	4.9	A
	Subtotal	229	231	101	4.8	A
EB	L	41	40	98	2.6	A
	T	135	127	94	3.0	A
	R	54	53	98	2.7	A
	Subtotal	230	220	96	2.9	A
WB	L	5	5	105	2.8	A
	T	295	295	100	3.9	A
	R	5	6	126	3.3	A
	Subtotal	305	306	100	3.9	A
Total		896	889	99	3.6	A

Intersection: 4600 West & Lexington Heights Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	121	121	100	0.1	A
	R	4	5	118	0.1	A
	Subtotal	125	126	101	0.1	A
SB	L	23	22	95	2.0	A
	T	47	47	99	0.3	A
	R	7	6	83	0.4	A
	Subtotal	77	75	97	0.8	A
EB	L	5	5	95	4.6	A
	Subtotal	***5***	***5***	***100***	***4.6***	***A***
WB	L	4	4	94	4.6	A
	R	6	7	112	3.1	A
	Subtotal	10	11	110	3.6	A
Total		218	217	99	0.6	A

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SimTraffic LOS Report

Project: Cedar Hills - Senior Living Facility TIS
Analysis Period: *Existing 2014 Plus Project*
Time Period: *a.m. peak hour* **Project #:** *UT14-558*

Intersection: 4600 West & Charleston Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	115	116	101	0.2	A
	R	1	2	200	0.2	A
	Subtotal	117	118	101	0.2	A
SB	L	2	2	89	1.1	A
	T	44	43	99	0.1	A
	R	4	5	118	0.0	A
	Subtotal	50	50	100	0.1	A
EB	L	4	4	94	4.8	A
	R	2	2	100	3.2	A
	Subtotal	***6***	***6***	***100***	***4.3***	***A***
WB	L	2	1	44	5.3	A
	R	1	2	200	2.0	A
	Subtotal	3	3	100	3.1	A
Total		177	177	100	0.4	A

Intersection:
Type:

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
Total						

1: 4800 West & Cedar Hills Drive Performance by movement Interval #1 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	3.2	3.7	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.1	0.2
Total Delay (hr)	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0.5	0.0	0.1	0.5	0.0
Total Del/Veh (s)	22.2	30.4	3.6	16.9	15.9	5.2	14.5	14.7	2.5	13.5	13.2	3.0
Vehicles Entered	14	11	6	41	36	37	13	115	20	24	135	33
Vehicles Exited	14	12	6	41	36	37	13	116	21	24	134	32
Hourly Exit Rate	56	48	24	164	144	148	52	464	84	96	536	128
Input Volume	64	36	18	150	155	158	60	439	85	103	554	133
% of Volume	88	133	133	109	93	94	87	106	99	93	97	96

1: 4800 West & Cedar Hills Drive Performance by movement Interval #1 7:15

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.3
Total Delay (hr)	1.8
Total Del/Veh (s)	13.0
Vehicles Entered	485
Vehicles Exited	486
Hourly Exit Rate	1944
Input Volume	1955
% of Volume	99

1: 4800 West & Cedar Hills Drive Performance by movement Interval #2 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	3.1	3.9	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.2	0.2
Total Delay (hr)	0.2	0.1	0.0	0.3	0.2	0.1	0.1	0.7	0.0	0.2	0.9	0.1
Total Del/Veh (s)	23.3	32.8	4.2	18.2	16.0	8.2	20.4	18.7	3.6	17.5	18.1	4.8
Vehicles Entered	24	14	6	56	55	62	20	140	26	30	182	45
Vehicles Exited	23	13	6	56	54	61	20	138	26	29	179	45
Hourly Exit Rate	92	52	24	224	216	244	80	552	104	116	716	180
Input Volume	99	55	27	230	229	242	75	548	106	128	693	166
% of Volume	93	95	89	97	94	101	107	101	98	91	103	108

1: 4800 West & Cedar Hills Drive Performance by movement Interval #2 7:30

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.3
Total Delay (hr)	3.0
Total Del/Veh (s)	16.0
Vehicles Entered	660
Vehicles Exited	650
Hourly Exit Rate	2600
Input Volume	2598
% of Volume	100

1: 4800 West & Cedar Hills Drive Performance by movement Interval #3 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	3.1	4.2	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.2	0.2
Total Delay (hr)	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0.4	0.0	0.1	0.5	0.0
Total Del/Veh (s)	23.4	25.3	4.2	17.0	16.8	5.8	13.2	13.3	2.4	14.2	12.4	2.9
Vehicles Entered	14	9	4	38	38	43	15	107	20	25	140	33
Vehicles Exited	16	9	4	39	39	44	15	110	19	26	142	34
Hourly Exit Rate	64	36	16	156	156	176	60	440	76	104	568	136
Input Volume	64	36	18	150	155	158	60	439	85	103	554	133
% of Volume	100	100	89	104	101	111	100	100	89	101	103	102

1: 4800 West & Cedar Hills Drive Performance by movement Interval #3 7:45

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.3
Total Delay (hr)	1.8
Total Del/Veh (s)	12.4
Vehicles Entered	486
Vehicles Exited	497
Hourly Exit Rate	1988
Input Volume	1955
% of Volume	102

1: 4800 West & Cedar Hills Drive Performance by movement Interval #4 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	3.2	3.8	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.1	0.2
Total Delay (hr)	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0.4	0.0	0.1	0.5	0.0
Total Del/Veh (s)	23.5	29.9	4.4	16.3	16.7	5.5	13.4	13.2	2.4	13.1	12.1	3.6
Vehicles Entered	13	9	5	39	43	39	15	113	24	25	132	36
Vehicles Exited	13	9	5	38	43	39	15	113	24	25	133	35
Hourly Exit Rate	52	36	20	152	172	156	60	452	96	100	532	140
Input Volume	64	36	18	150	155	158	60	439	85	103	554	133
% of Volume	81	100	111	101	111	99	100	103	113	97	96	105

1: 4800 West & Cedar Hills Drive Performance by movement Interval #4 8:00

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.3
Total Delay (hr)	1.7
Total Del/Veh (s)	12.1
Vehicles Entered	493
Vehicles Exited	492
Hourly Exit Rate	1968
Input Volume	1955
% of Volume	101

1: 4800 West & Cedar Hills Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.3	3.2	3.8	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.2	0.2
Total Delay (hr)	0.4	0.4	0.0	0.9	0.8	0.3	0.3	2.1	0.1	0.4	2.4	0.2
Total Del/Veh (s)	24.5	31.3	4.1	17.7	16.7	6.5	16.2	15.5	2.8	15.1	14.7	3.8
Vehicles Entered	66	43	21	173	172	182	62	475	90	104	589	146
Vehicles Exited	66	43	21	173	172	182	63	476	90	105	589	146
Hourly Exit Rate	66	43	21	173	172	182	63	476	90	105	589	146
Input Volume	73	41	20	170	174	179	64	466	90	109	589	141
% of Volume	91	106	104	102	99	102	99	102	100	96	100	103

1: 4800 West & Cedar Hills Drive Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.3
Total Delay (hr)	8.3
Total Del/Veh (s)	13.9
Vehicles Entered	2123
Vehicles Exited	2126
Hourly Exit Rate	2126
Input Volume	2116
% of Volume	100

2: Cedar Hills Drive & Walmart Access Performance by movement Interval #1 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1		0.2	4.4	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	3.9	1.0	1.0	2.1	1.0	0.7	10.1		10.0	5.2	1.8
Vehicles Entered	9	44	4	1	111	11	6	0	7	2	195
Vehicles Exited	9	45	3	1	112	12	6	0	7	2	197
Hourly Exit Rate	36	180	12	4	448	48	24	0	28	8	788
Input Volume	29	185	10	3	450	41	28	1	29	7	783
% of Volume	124	97	120	133	100	117	86	0	97	114	101

2: Cedar Hills Drive & Walmart Access Performance by movement Interval #2 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	0.0	0.0	0.0	0.0	0.0	0.1		0.2	4.5	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	6.0	1.0	1.0	2.3	1.9	1.6	19.0		19.5	10.0	3.0
Vehicles Entered	10	63	3	1	169	15	9	0	9	4	283
Vehicles Exited	10	62	3	1	168	15	8	0	9	4	280
Hourly Exit Rate	40	248	12	4	672	60	32	0	36	16	1120
Input Volume	45	265	15	4	689	64	35	1	45	11	1174
% of Volume	89	94	80	100	98	94	91	0	80	145	95

2: Cedar Hills Drive & Walmart Access Performance by movement Interval #3 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0		0.0	0.0	0.1	2.5	0.2	4.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	5.9	0.9	0.8		1.1	0.9	8.5	2.5	11.2	4.3	2.0
Vehicles Entered	7	45	3	0	112	12	9	1	7	2	198
Vehicles Exited	7	46	3	0	113	11	9	1	7	2	199
Hourly Exit Rate	28	184	12	0	452	44	36	4	28	8	796
Input Volume	29	185	10	3	450	41	28	1	29	7	783
% of Volume	97	99	120	0	100	107	129	400	97	114	102

2: Cedar Hills Drive & Walmart Access Performance by movement Interval #4 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1		0.2	5.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	5.5	0.9	0.8	2.0	1.1	0.8	9.2		9.0	5.0	1.8
Vehicles Entered	9	48	2	1	117	9	7	0	6	2	201
Vehicles Exited	9	49	2	1	117	10	8	0	6	2	204
Hourly Exit Rate	36	196	8	4	468	40	32	0	24	8	816
Input Volume	29	185	10	3	450	41	28	1	29	7	783
% of Volume	124	106	80	133	104	98	114	0	83	114	104

2: Cedar Hills Drive & Walmart Access Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.1	4.6	0.2	4.1	0.1
Total Delay (hr)	0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.6
Total Del/Veh (s)	5.5	1.0	1.0	2.5	1.4	1.1	12.3	3.9	13.6	6.3	2.3
Vehicles Entered	34	200	11	3	510	48	31	1	30	11	879
Vehicles Exited	34	201	11	3	510	48	31	1	30	11	880
Hourly Exit Rate	34	201	11	3	510	48	31	1	30	11	880
Input Volume	33	205	11	3	510	47	30	1	33	8	881
% of Volume	103	98	98	92	100	103	104	100	91	138	100

3: 4600 West & Cedar Hills Drive Performance by movement Interval #1 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.3	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.4	2.7	2.5	2.3	3.3	2.3	2.5	1.8	2.1	4.0	4.0	3.7
Vehicles Entered	8	28	12	1	65	1	23	3	3	13	3	35
Vehicles Exited	8	28	12	1	64	1	24	3	2	13	3	36
Hourly Exit Rate	32	112	48	4	256	4	96	12	8	52	12	144
Input Volume	36	119	48	4	260	4	91	16	13	46	13	143
% of Volume	89	94	100	100	98	100	105	75	62	113	92	101

3: 4600 West & Cedar Hills Drive Performance by movement Interval #1 7:15

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.2
Total Del/Veh (s)	3.1
Vehicles Entered	195
Vehicles Exited	195
Hourly Exit Rate	780
Input Volume	793
% of Volume	98

3: 4600 West & Cedar Hills Drive Performance by movement Interval #2 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.3	0.4	0.2	0.0	0.1	0.0	0.3	0.2	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	3.0	3.2	3.2	3.4	4.6	4.8	3.2	3.2	2.9	5.9	5.6	6.7
Vehicles Entered	15	41	15	2	100	2	33	3	6	16	4	54
Vehicles Exited	14	41	15	2	99	2	33	3	6	16	4	53
Hourly Exit Rate	56	164	60	8	396	8	132	12	24	64	16	212
Input Volume	55	183	73	7	399	7	139	12	20	70	20	219
% of Volume	102	90	82	114	99	114	95	100	120	91	80	97

3: 4600 West & Cedar Hills Drive Performance by movement Interval #2 7:30

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.4
Total Del/Veh (s)	4.5
Vehicles Entered	291
Vehicles Exited	288
Hourly Exit Rate	1152
Input Volume	1204
% of Volume	96

3: 4600 West & Cedar Hills Drive Performance by movement Interval #3 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.3	0.1	0.0	0.0	0.0	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.3	2.8	2.5	2.8	3.5	2.1	2.4	1.6	2.6	4.0	3.4	3.7
Vehicles Entered	8	29	14	1	64	2	24	4	4	13	4	35
Vehicles Exited	8	29	14	1	64	2	24	4	4	13	4	36
Hourly Exit Rate	32	116	56	4	256	8	96	16	16	52	16	144
Input Volume	36	119	48	4	260	4	91	16	13	46	13	143
% of Volume	89	97	117	100	98	200	105	100	123	113	123	101

3: 4600 West & Cedar Hills Drive Performance by movement Interval #3 7:45

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.2
Total Del/Veh (s)	3.2
Vehicles Entered	202
Vehicles Exited	203
Hourly Exit Rate	812
Input Volume	793
% of Volume	102

3: 4600 West & Cedar Hills Drive Performance by movement Interval #4 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.4	0.2	0.2	0.0	0.0	0.0	0.2	0.2	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.2	2.9	2.4	2.2	3.2	3.6	2.4	1.0	2.5	3.8	5.2	4.0
Vehicles Entered	9	29	13	1	66	1	23	4	3	13	2	38
Vehicles Exited	9	29	13	1	67	1	23	3	3	13	2	38
Hourly Exit Rate	36	116	52	4	268	4	92	12	12	52	8	152
Input Volume	36	119	48	4	260	4	91	16	13	46	13	143
% of Volume	100	97	108	100	103	100	101	75	92	113	62	106

3: 4600 West & Cedar Hills Drive Performance by movement Interval #4 8:00

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.2
Total Del/Veh (s)	3.1
Vehicles Entered	202
Vehicles Exited	202
Hourly Exit Rate	808
Input Volume	793
% of Volume	102

3: 4600 West & Cedar Hills Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.3	0.3	0.2	0.0	0.0	0.0	0.2	0.2	0.2
Total Delay (hr)	0.0	0.1	0.0	0.0	0.3	0.0	0.1	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	2.6	3.0	2.7	2.8	3.9	3.3	2.7	1.9	2.6	4.6	4.5	4.9
Vehicles Entered	40	127	53	5	294	6	104	13	16	55	13	163
Vehicles Exited	40	127	53	5	295	6	103	13	16	55	13	163
Hourly Exit Rate	40	127	53	5	295	6	103	13	16	55	13	163
Input Volume	41	135	54	5	295	5	103	15	15	52	15	162
% of Volume	98	94	98	105	100	126	100	87	108	106	88	101

3: 4600 West & Cedar Hills Drive Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.9
Total Del/Veh (s)	3.6
Vehicles Entered	889
Vehicles Exited	889
Hourly Exit Rate	889
Input Volume	896
% of Volume	99

4: 4600 West & Lexington Heights Access Performance by movement Interval #1 7:15

Movement	EBL	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.4	5.3	3.7	0.2	0.0	1.9	0.2	0.5	0.7
Vehicles Entered	1	1	2	26	2	5	11	1	49
Vehicles Exited	1	1	2	26	2	5	11	1	49
Hourly Exit Rate	4	4	8	104	8	20	44	4	196
Input Volume	5	4	6	109	4	22	41	7	198
% of Volume	80	100	133	95	200	91	107	57	99

4: 4600 West & Lexington Heights Access Performance by movement Interval #2 7:30

Movement	EBL	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.6	3.0	3.0	0.1	0.1	2.5	0.4	0.3	0.6
Vehicles Entered	2	1	2	38	2	5	15	2	67
Vehicles Exited	2	1	2	38	2	5	15	2	67
Hourly Exit Rate	8	4	8	152	8	20	60	8	268
Input Volume	6	5	7	156	5	27	66	8	280
% of Volume	133	80	114	97	160	74	91	100	96

4: 4600 West & Lexington Heights Access Performance by movement Interval #3 7:45

Movement	EBL	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.7	7.6	2.4	0.1	0.0	2.0	0.3	0.2	0.7
Vehicles Entered	1	1	2	29	1	6	12	2	54
Vehicles Exited	1	1	2	29	1	6	12	2	54
Hourly Exit Rate	4	4	8	116	4	24	48	8	216
Input Volume	5	4	6	109	4	22	41	7	198
% of Volume	80	100	133	106	100	109	117	114	109

4: 4600 West & Lexington Heights Access Performance by movement Interval #4 8:00

Movement	EBL	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.6	2.3	3.3	0.1	0.1	2.1	0.3	0.5	0.6
Vehicles Entered	1	1	1	28	1	5	10	2	49
Vehicles Exited	1	1	1	28	1	5	10	2	49
Hourly Exit Rate	4	4	4	112	4	20	40	8	196
Input Volume	5	4	6	109	4	22	41	7	198
% of Volume	80	100	67	103	100	91	98	114	99

4: 4600 West & Lexington Heights Access Performance by movement Entire Run

Movement	EBL	WBL	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.6	4.6	3.1	0.1	0.1	2.0	0.3	0.4	0.6
Vehicles Entered	5	4	7	122	5	22	47	6	218
Vehicles Exited	5	4	7	121	5	22	47	6	217
Hourly Exit Rate	5	4	7	121	5	22	47	6	217
Input Volume	5	4	6	121	4	23	47	7	218
% of Volume	95	94	112	100	118	95	99	83	99

5: 4600 West & Charleston Access Performance by movement Interval #1 7:15

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1			0.1		0.1			0.0	0.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.9			1.6		0.1			0.1	0.0	0.3
Vehicles Entered	1	0	0	1	0	25	0	0	11	1	39
Vehicles Exited	1	0	0	1	0	25	0	0	11	1	39
Hourly Exit Rate	4	0	0	4	0	100	0	0	44	4	156
Input Volume	4	2	2	1	1	102	1	2	39	4	158
% of Volume	100	0	0	400	0	98	0	0	113	100	99

5: 4600 West & Charleston Access Performance by movement Interval #2 7:30

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1					0.2		0.0	0.0	0.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.5					0.3		0.8	0.2	0.0	0.4
Vehicles Entered	1	0	0	0	0	38	0	1	11	2	53
Vehicles Exited	1	0	0	0	0	38	0	1	11	2	53
Hourly Exit Rate	4	0	0	0	0	152	0	4	44	8	212
Input Volume	5	2	3	1	1	155	1	3	57	5	233
% of Volume	80	0	0	0	0	98	0	133	77	160	91

5: 4600 West & Charleston Access Performance by movement Interval #3 7:45

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1				0.1			0.0	0.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.8	2.1				0.1			0.2	0.1	0.4
Vehicles Entered	1	1	0	0	0	26	0	0	11	1	40
Vehicles Exited	1	1	0	0	0	26	0	0	12	1	41
Hourly Exit Rate	4	4	0	0	0	104	0	0	48	4	164
Input Volume	4	2	2	1	1	102	1	2	39	4	158
% of Volume	100	200	0	0	0	102	0	0	123	100	104

5: 4600 West & Charleston Access Performance by movement Interval #4 8:00

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1					0.2	0.1		0.0		0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.2	1.6				0.1	0.0		0.1		0.3
Vehicles Entered	1	0	0	0	0	27	1	0	10	0	39
Vehicles Exited	1	1	0	0	0	26	1	0	10	0	39
Hourly Exit Rate	4	4	0	0	0	104	4	0	40	0	156
Input Volume	4	2	2	1	1	102	1	2	39	4	158
% of Volume	100	200	0	0	0	102	400	0	103	0	99

5: 4600 West & Charleston Access Performance by movement Entire Run

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1		0.2	0.1	0.0	0.0	0.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.8	3.2	5.3	2.0		0.2	0.2	1.1	0.1	0.0	0.4
Vehicles Entered	4	2	1	2	0	116	2	2	43	5	177
Vehicles Exited	4	2	1	2	0	116	2	2	43	5	177
Hourly Exit Rate	4	2	1	2	0	116	2	2	43	5	177
Input Volume	4	2	2	1	1	115	1	2	44	4	177
% of Volume	94	100	44	200	0	101	200	89	99	118	100

Total Zone Performance By Interval

Interval Start	7:15	7:30	7:45	8:00	All
Denied Delay (hr)	0.1	0.1	0.1	0.1	0.3
Denied Del/Veh (s)	0.4	0.4	0.4	0.4	0.4
Total Delay (hr)	2.4	4.1	2.4	2.3	11.2
Total Del/Veh (s)	15.0	18.8	14.2	14.0	16.7
Vehicles Entered	539	745	540	541	2372
Vehicles Exited	535	729	558	546	2368
Hourly Exit Rate	2140	2916	2232	2184	2368
Input Volume	7280	10018	7280	7280	7964
% of Volume	29	29	31	30	30

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	72	64	37	103	113	85	48	138	115	42	63	145
Average Queue (ft)	38	36	17	62	57	39	26	87	61	18	37	81
95th Queue (ft)	78	74	44	104	110	88	54	149	122	40	65	140
Link Distance (ft)	1025				450			283	283			1110
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	60		60	180			180	170	
Storage Blk Time (%)	2	1		9	6	1		0				0
Queuing Penalty (veh)	1	1		24	18	2		0				0

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #1

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	110	45
Average Queue (ft)	61	22
95th Queue (ft)	120	48
Link Distance (ft)	1110	1110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	95	73	43	114	186	116	74	164	134	43	77	186
Average Queue (ft)	54	43	17	79	104	69	39	118	88	24	48	128
95th Queue (ft)	92	83	49	130	204	129	79	179	150	46	83	190
Link Distance (ft)	1025				450			283	283			1110
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	60		60	180			180	170	
Storage Blk Time (%)	5	3		14	13	5		1	0			2
Queuing Penalty (veh)	4	3		59	60	23		0	0			2

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #2

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	166	59
Average Queue (ft)	101	31
95th Queue (ft)	172	64
Link Distance (ft)	1110	1110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	76	60	38	106	146	100	52	139	109	43	72	146
Average Queue (ft)	39	27	11	62	71	53	27	85	51	17	41	88
95th Queue (ft)	78	63	39	110	144	110	55	140	115	41	73	153
Link Distance (ft)	1025				450			283	283			1110
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	60		60	180			180	170	
Storage Blk Time (%)	1	1	0	8	8	1		0				0
Queuing Penalty (veh)	1	0	0	23	24	3		0				0

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #3

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	126	47
Average Queue (ft)	61	19
95th Queue (ft)	131	41
Link Distance (ft)	1110	1110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	61	60	35	104	127	88	53	134	106	38	61	132
Average Queue (ft)	37	33	15	58	65	46	25	83	51	17	38	84
95th Queue (ft)	67	72	41	105	123	100	55	139	111	41	67	138
Link Distance (ft)	1025				450			283	283			1110
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	60		60	180			180	170	
Storage Blk Time (%)	1	2		7	9	1		0	0			0
Queuing Penalty (veh)	0	1		19	26	3		0	0			0

Intersection: 1: 4800 West & Cedar Hills Drive, Interval #4

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	106	54
Average Queue (ft)	53	25
95th Queue (ft)	111	57
Link Distance (ft)	1110	1110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: 4800 West & Cedar Hills Drive, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	108	89	56	120	199	118	79	178	146	55	86	193
Average Queue (ft)	42	35	15	66	74	52	29	93	63	19	41	95
95th Queue (ft)	81	74	44	114	154	110	62	156	129	42	73	163
Link Distance (ft)	1025				450			283	283			1110
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		75	75	60		60	180			180	170	
Storage Blk Time (%)	2	2	0	9	9	2		0	0			1
Queuing Penalty (veh)	2	1	0	31	32	8		0	0			1

Intersection: 1: 4800 West & Cedar Hills Drive, All Intervals

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	174	74
Average Queue (ft)	69	24
95th Queue (ft)	141	54
Link Distance (ft)	1110	1110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Cedar Hills Drive & Walmart Access, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	LT	R	LT	R
Maximum Queue (ft)	26	5	32	12	43	26
Average Queue (ft)	11	1	19	1	22	7
95th Queue (ft)	31	8	43	11	51	28
Link Distance (ft)			241		198	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100	100		100		100
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Cedar Hills Drive & Walmart Access, Interval #2

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	TR	LT	R	LT	R
Maximum Queue (ft)	34	3	4	55	2	49	26
Average Queue (ft)	16	0	1	25	0	24	13
95th Queue (ft)	39	6	6	58	4	56	36
Link Distance (ft)			651	241		198	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100	100			100		100
Storage Blk Time (%)				0		0	
Queuing Penalty (veh)				0		0	

Intersection: 2: Cedar Hills Drive & Walmart Access, Interval #3

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	LT	R	LT	R
Maximum Queue (ft)	36	4	45	15	49	23
Average Queue (ft)	13	1	25	3	23	7
95th Queue (ft)	38	9	50	16	54	27
Link Distance (ft)		651	241		198	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100			100		100
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Cedar Hills Drive & Walmart Access, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	LT	R	LT	R
Maximum Queue (ft)	35	3	42	3	48	26
Average Queue (ft)	13	0	21	0	21	9
95th Queue (ft)	38	6	48	6	54	30
Link Distance (ft)			241		198	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100	100		100		100
Storage Blk Time (%)					0	
Queuing Penalty (veh)					0	

Intersection: 2: Cedar Hills Drive & Walmart Access, All Intervals

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	TR	LT	R	LT	R
Maximum Queue (ft)	43	10	6	61	24	64	29
Average Queue (ft)	13	0	0	22	1	22	9
95th Queue (ft)	37	6	5	50	10	54	31
Link Distance (ft)			651	241		198	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100	100			100		100
Storage Blk Time (%)				0		0	
Queuing Penalty (veh)				0		0	

Intersection: 3: 4600 West & Cedar Hills Drive, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	32	57	40	62
Average Queue (ft)	8	22	15	36
95th Queue (ft)	32	60	46	66
Link Distance (ft)	651	989	218	774
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: 4600 West & Cedar Hills Drive, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	53	84	56	99
Average Queue (ft)	14	44	26	57
95th Queue (ft)	51	89	63	104
Link Distance (ft)	651	989	218	774
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: 4600 West & Cedar Hills Drive, Interval #3

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	34	56	34	64
Average Queue (ft)	10	21	13	36
95th Queue (ft)	36	60	39	70
Link Distance (ft)	651	989	218	774
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: 4600 West & Cedar Hills Drive, Interval #4

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	37	52	39	67
Average Queue (ft)	11	24	11	32
95th Queue (ft)	39	59	40	67
Link Distance (ft)	651	989	218	774
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: 4600 West & Cedar Hills Drive, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	58	86	59	102
Average Queue (ft)	10	28	17	40
95th Queue (ft)	40	70	49	81
Link Distance (ft)	651	989	218	774
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: 4600 West & Lexington Heights Access, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	24	31	3	15
Average Queue (ft)	4	9	0	3
95th Queue (ft)	22	33	6	16
Link Distance (ft)	152	107	119	218
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: 4600 West & Lexington Heights Access, Interval #2

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	27	30	24
Average Queue (ft)	8	10	4
95th Queue (ft)	30	34	21
Link Distance (ft)	152	107	218
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: 4600 West & Lexington Heights Access, Interval #3

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	15	32	18
Average Queue (ft)	3	12	3
95th Queue (ft)	19	37	17
Link Distance (ft)	152	107	218
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: 4600 West & Lexington Heights Access, Interval #4

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	18	29	18
Average Queue (ft)	4	6	2
95th Queue (ft)	22	26	15
Link Distance (ft)	152	107	218
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: 4600 West & Lexington Heights Access, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	30	37	3	31
Average Queue (ft)	5	9	0	3
95th Queue (ft)	23	33	3	17
Link Distance (ft)	152	107	119	218
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: 4600 West & Charleston Access, Interval #1

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	24	20	3
Average Queue (ft)	4	4	0
95th Queue (ft)	22	20	6
Link Distance (ft)	217	104	625
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: 4600 West & Charleston Access, Interval #2

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	27	12
Average Queue (ft)	5	2
95th Queue (ft)	24	16
Link Distance (ft)	217	104
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: 4600 West & Charleston Access, Interval #3

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	27	17
Average Queue (ft)	6	3
95th Queue (ft)	27	17
Link Distance (ft)	217	104
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: 4600 West & Charleston Access, Interval #4

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	27	15
Average Queue (ft)	6	3
95th Queue (ft)	26	17
Link Distance (ft)	217	104
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: 4600 West & Charleston Access, All Intervals

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	33	29	3
Average Queue (ft)	5	3	0
95th Queue (ft)	25	17	3
Link Distance (ft)	217	104	625
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty, Interval #1: 47
Zone wide Queuing Penalty, Interval #2: 151
Zone wide Queuing Penalty, Interval #3: 52
Zone wide Queuing Penalty, Interval #4: 51
Zone wide Queuing Penalty, All Intervals: 75

HALES ENGINEERING
innovative transportation solutions

APPENDIX C

Site Plan

Cedar Hills Drive
10040 North
4000 West Street

HALES ENGINEERING
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APPENDIX D

95th Percentile Queue Length Reports

SimTraffic Queueing Report

Project: Cedar Hills - Senior LIving Facility TIS

Time Period: a.m. peak hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
Innovative transportation solutions

Project #: UT14-558

Intersection	Time Period	EB				NB				SB					WB				
		L	LTR	R	T	L	LTR	R	T	L	LT	LTR	R	T	L	LTR	R	T	TR
4600 West & Cedar Hills Drive	Existing 2014 Conditions	--	47	--	--	--	48	--	--	--	--	86	--	--	--	76	--	--	--
4600 West & Charleston Access	Existing 2014 Conditions	--	--	--	--	--	--	--	--	--	--	4	--	--	--	16	--	--	--
4600 West & Lexington Heights Access	Existing 2014 Conditions	--	--	--	--	--	--	--	--	--	--	20	--	--	--	30	--	--	--
4800 West & Cedar Hills Drive	Existing 2014 Conditions	88	--	37	70	65	--	39	142	75	--	--	53	147	109	--	101	146	--
Cedar Hills Drive & Walmart Access	Existing 2014 Conditions	35	--	--	--	--	--	--	--	--	55	--	29	--	--	--	--	--	6

SimTraffic Queueing Report

Project: Cedar Hills - Senior Living Facility TIS

Time Period: a.m. peak hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
Innovative transportation solutions

Project #: UT14-558

Intersection	Time Period	EB				NB					SB					WB				
		L	LTR	R	T	L	LT	LTR	R	T	L	LT	LTR	R	T	L	LTR	R	T	TR
4600 West & Cedar Hills Drive	Existing 2014 Plus Project	--	40	--	--	--	--	49	--	--	--	--	81	--	--	--	70	--	--	--
4600 West & Charleston Access	Existing 2014 Plus Project	--	25	--	--	--	--	3	--	--	--	--	--	--	--	--	17	--	--	--
4600 West & Lexington Heights Access	Existing 2014 Plus Project	--	23	--	--	--	--	3	--	--	--	--	17	--	--	--	33	--	--	--
4800 West & Cedar Hills Drive	Existing 2014 Plus Project	81	--	44	74	62	--	--	42	143	73	--	--	54	152	114	--	110	154	--
Cedar Hills Drive & Walmart Access	Existing 2014 Plus Project	37	--	--	--	--	50	--	10	--	--	54	--	31	--	6	--	--	--	5

CITY OF CEDAR HILLS

TO:	Planning Commission
FROM:	Chandler Goodwin, Assistant City Manager
DATE:	8/18/2015

Planning Commission
Agenda Item

SUBJECT:	Review/Action on conceptual subdivision located 3939 W 9600 N
APPLICANT PRESENTATION:	Fred Levin
STAFF PRESENTATION:	Chandler Goodwin, Assistant City Manager

BACKGROUND AND FINDINGS:

Mr. Levin has presented to the Planning Commission on a previous occasion regarding the subdivision of his lot. The parcel in question is approximately one acre. The discussion with Mr. Levin has centered on the requirement in City Code that requires subdivisions to be brought up to City standards by having curb, gutter, and asphalt up to City design standards. Mr. Levin would like an exception to these standards as he has priced out the various improvements that would be required, and the cost becomes prohibitive to developing his land. Staff has been consistent in that any division of land would trigger the subdivision code and require Mr. Levin to make the necessary improvements to his property.

PREVIOUS LEGISLATIVE ACTION:

Planning Commission has reviewed a proposal from Mr. Levin on a previous occasion, May 26, 2015.

FISCAL IMPACT:

N/A

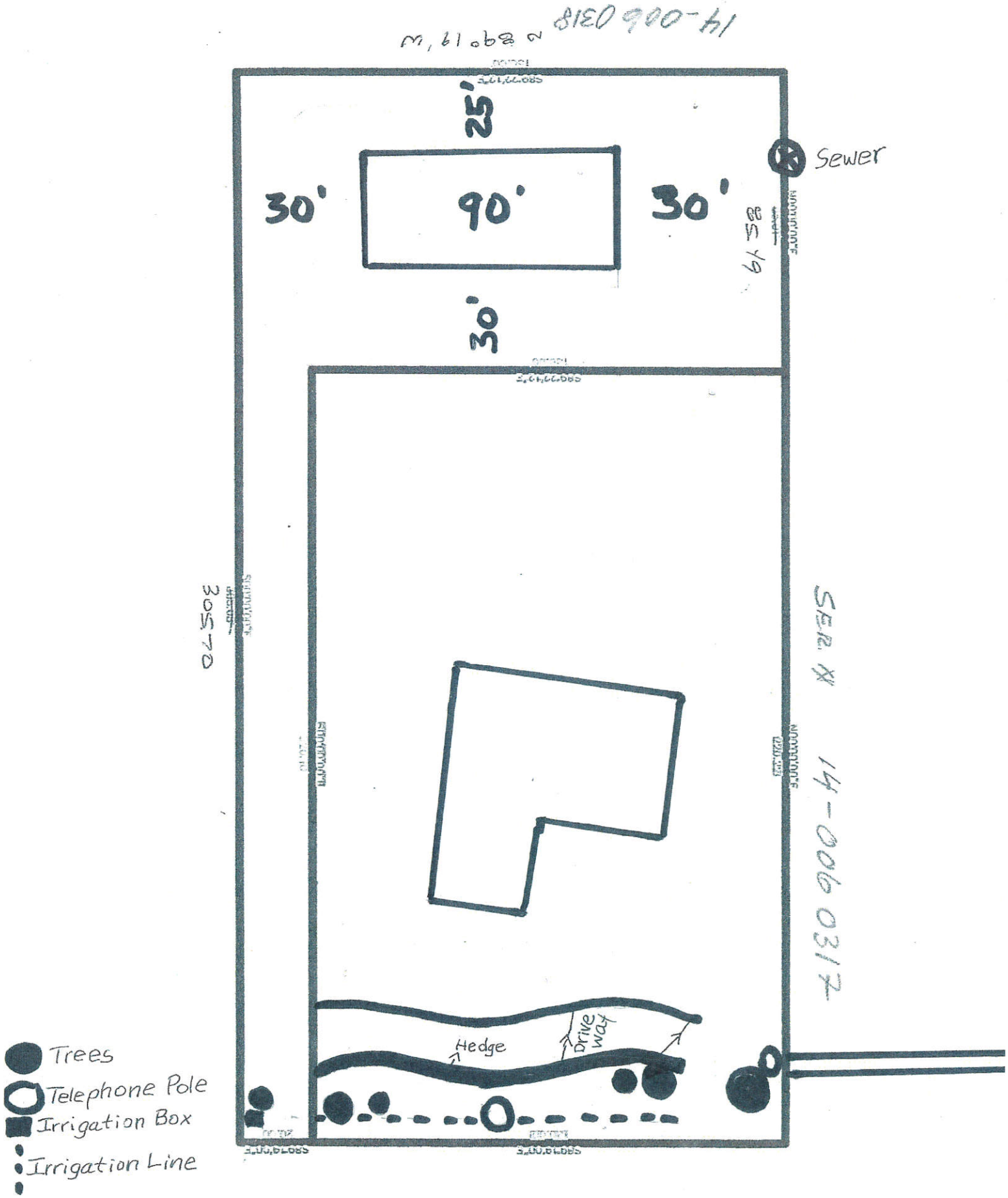
SUPPORTING DOCUMENTS:

Site Plan

RECOMMENDATION:

Provide input to Mr. Levin on how he is to proceed with the proposed subdivision

MOTION:

To approve/not approve the conceptual subdivision of Mr. Levin's property located at 3939 W 9600 N.

Fred Levin plot