

PLANNING COMMISSION MEETING  
Thursday, April 19, 2012 6:00 p.m.  
Public Works Building  
10246 N Canyon Road, Cedar Hills, Utah

Notice is hereby given that the Planning Commission of the City of Cedar Hills, Utah, will hold its Regular Planning Commission Meeting (one week early) on Thursday, April 19, 2012, beginning at 6:00 p.m.

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 on agenda items. (Comments limited to 3 minutes per person with a total of 30 minutes for this item)

SCHEDULED ITEMS

3. Approval of Minutes from the March 29, 2012, Planning Commission Meeting and Public Hearing
4. Review/Recommendation on the Final Plan for Rhinehart Oil Gas and Convenience Store Located at Approximately 10018 North and 4800 West
5. Committee Assignments and Reports

ADJOURNMENT

6. Adjourn

Posted this 16th day of April, 2012.

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Kim E. Holindrake, City Recorder

- Supporting documentation for this agenda is posted on the City's Web Site at [www.cedarhills.org](http://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 and the staff.



# CITY OF CEDAR HILLS

<b>TO:</b>	Planning Commission
<b>FROM:</b>	David Bunker, City Engineer/PW Director
<b>DATE:</b>	4/19/2012

## Planning Commission Agenda Item

<b>SUBJECT:</b>	Harts Gas Station
<b>APPLICANT PRESENTATION:</b>	David Bunker
<b>STAFF PRESENTATION:</b>	David Bunker, City Engineer/Public Works Director

**BACKGROUND AND FINDINGS:**

Harts Gas Station has submitted final plans. A copy of the City Council motion is attached. Included in the motion are several areas which have items to address. Some notes from the meeting include the following:

- Final Plat shall be prepared. Right of Way Dedication shall be identified on the final plat. Street dedication shall be required to the east property line. A phasing plan shall be submitted as part of the plat.
- An executed development agreement shall be required. The agreement shall include but not be limited to water rights required, ROW maintenance, playing outdoor music, use of fuel supplies for City emergency use, etc.
- A final signage plan shall be submitted.
- Exterior sales areas shall be identified including Ice, Propane, or vending machines. Screening for the refrigeration unit shall be approved.
- Landscape plan shall meet intent of design guidelines and existing plantings of the commercial zone. The concrete area under the canopy shall be colored but not stamped.

Planning commission can recommend approval based on submittal or completion of the required items.

**PREVIOUS LEGISLATIVE ACTION:**

Preliminary approval

**FISCAL IMPACT:**

None.

**SUPPORTING DOCUMENTS:**

Plans and studies as submitted. City Council motion for preliminary approval.

**RECOMMENDATION:**

Staff recommends the Planning Commission review and recommend final approval to City Council based on findings of fact for information submitted, and any further requirements as necessary.

**MOTION:**

To recommend/ not recommend final approval for Harts Gas Station subject to the following items, . .

Item: Preliminary Plan for Rhinehart Oil Gas and Convenience Store Located at Approximately 10018 North and 4800 West

**MOTION: C. Jackman - In regards to the preliminary sit approval for Harts, I move that:**

**(1) Architecture - Elevation plans be accepted and to make a finding that the proposed architectural plans comply with the intent of the design guidelines, specifically, that the motif is an expression of the approved American Colonial style, and that the proposed building is harmonious and cohesive with the existing buildings in the SC-1 Zone, subject to sign approval, an approved materials board, review of canopy, all utility, and access doors colored such as to blend with the exterior brick walls.**

**(2) Landscaping - A landscaping plan to be accepted, including a combined landscaping quantity of 25% and quality level that will meet the intent of the Design Guidelines, and successfully mitigates the hard surface and visual impact of the development subject to verification and acceptance that proposed plants and trees comply with the approved species list at approved spacing. Evergreen trees shall be Scottish Pine.**

**(3)Traffic - A traffic study to be accepted and make a finding that the traffic capacity appears to be appropriate for the proposed project and the traffic safety and calming can be appropriately mitigated subject to acceptance by the City Council of a Livability and Safety Standards Plan by the Traffic Safety and Livability Oversight Committee, submission and acceptance of a UDOT Category III traffic impact study.**

**(4) Site Plan - A submitted site plan be accepted and to make a finding that the proposed site plan complies with the purpose and intent statement of the Guidelines of the Design and Review of Planned Commercial Development Projects (Design Guidelines), and complies with the City of Cedar Hills Code 10-6A-31A, a harmonious grouping of buildings. The planned development meets the minimum standards of the Community Vision section of the Design Guidelines and the Cedar Hills General Plan. Building placement and sub-districting is in harmony with the intent of the Design Guidelines, taking into account the requirements for a human-scaled, pedestrian-friendly development that is sensitive to the surrounding residential areas. Building height, setback and facades are in harmony with the intent of the Land Use section of the Design Guidelines, and exceed all minimum standards. Cedar Hills' noise ordinance is nontechnical in nature. Still the submitted site plan appears to adequately predict a commercial environment that is sensitive to the adjacent residential areas.**

**(5) Site plan acceptance is subject to adoption of a development agreement and conditional use permit demanding maximum daytime commercial activity, L1, L10, and L90 levels of 60, 55, and 50 dBA, respectively. Furthermore, maximum nighttime commercial activity L1, L10, and L90 levels of 50, 40, and 445 dBA, respectively; no compressor enclosure openings on the sides facing residential areas; outside storage, container storage, and overnight parking shall not be allowed as outlined in the Design Guidelines; lighting plan; and future development plan.**

**(6) Final engineering and verification, including but not limited to, a finding that drainage calculations substantially conform to the City's design requirements, meet preliminary design criteria, and that final design of the site will dictate final sub-basin design and should be subject to final engineering review; a storm water management plan must be**

**submitted for pre and post construction runoff control. The plan should include applicable BMPs and details; Construction access via 4800 West only. Streets shall be kept free of dirt and debris during construction; all utility for complete site improvements shall be included as part of subdivision requirements.**

**(7) Grant preliminary site approval further subject to fire marshall and police chief approval, legal review, verification of water rights submitted, the issuance of a conditional use permit, and acceptance of a conditional use permit by the City Council, subdivision approval, if required, the acceptance by the City Council of recorded CC&Rs providing for the construction, completion, reasonable maintenance, upkeep and cleanliness, and surety of the combined project site in accordance with the City's subdivision ordinance and section 4.5 of the Design Guidelines. Said CC&Rs shall allow for the inclusion of adjacent development as a future phase and association member. And forward this matter to the Planning Commission for further consideration.** Seconded by C. Augustus.

Yes - C. Augustus  
C. Gygi  
C. Jackman  
C. Martinez  
C. Rees

Motion passes.

**BMP: Catch Basin Cleaning** CBC



**PROGRAM ELEMENTS**

- New Development
- Residential
- Commercial Activities
- Industrial Activities
- Municipal Facilities
- Illegal Discharges

**DESCRIPTION:**  
Maintain catch basin and stormwater inlets on a regular basis to remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, and restore the catch basin's sediment trapping capacity. A catch basin is distinguished from a stormwater inlet by having at its base a sediment sump designed to catch and retain sediments below the overflow point. This information sheet focuses on the cleaning of accumulated sediments from catch basins.

**APPROACH:**  
Regular maintenance of catch basins and inlets is necessary to ensure their proper functioning. Clogged catch basins are not only useless but may act as a source of sediments and pollutants. In general, the keys to effective catch basins are:

- ▶ At least annual inspections.
- ▶ Prioritize maintenance to clean catch basins and inlets in areas with the highest pollutant loading.
- ▶ Clean catch basins in high pollutant load areas just before the wet season to remove sediments and debris accumulated during the summer.
- ▶ Keep accurate logs of the number of catch basins cleaned.
- ▶ Record the amount of waste collected.

**LIMITATIONS:**  
There are no major limitations to this best management practice.

**MAINTENANCE:**  
Regular maintenance of public and private catch basins and inlets is necessary to ensure their proper functioning. Clogged catch basins are not only useless but may act as a source of sediments and pollutants. In general, the keys to effective catch basins are:

- ▶ Annual/monthly inspection of public and private facilities to ensure structural integrity, a clean sump, and a sealing of catch basins and inlets.
- ▶ Keep logs of the number of catch basins cleaned.
- ▶ Record the amount of waste collected.

**TARGETED POLLUTANTS**

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

**IMPLEMENTATION REQUIREMENTS**

- Capital Costs
- O&M Costs
- Regulatory
- Training
- Staffing
- Administrative

**IMPACT**

- High Impact
- Medium Impact
- Low or Unknown Impact

**IMPACT**

- High
- Medium
- Low

**BMP: BMP Inspection and Maintenance** BMPIM



**APPLICATIONS**

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices

**DESCRIPTION:**  
Inspect and maintain all structural BMP's (both existing and new) on a routine basis to remove pollutants from entering storm drain inlets. This includes the establishment of a schedule for inspections and maintenance.

**APPROACH:**  
Regular maintenance of all structural BMP's is necessary to ensure their proper functionality.

- ▶ Annual inspections.
- ▶ Prioritize maintenance to clean, maintain and repair or replace structures in areas beginning with the highest pollutant loading.
- ▶ Clean structural BMP's in high pollutant areas just before the wet season to remove sediments and debris accumulated during the summer and fall.
- ▶ Keep accurate logs of what structures were maintained and when they were maintained.
- ▶ Record the amount of waste collected.

**TARGETED POLLUTANTS**

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

**IMPLEMENTATION REQUIREMENTS**

- Capital Costs
- O&M Costs
- Maintenance
- Staffing
- Training
- Administrative

**IMPACT**

- High Impact
- Medium Impact
- Low or Unknown Impact

**IMPACT**

- High
- Medium
- Low

**LIMITATIONS:**  
▶ Availability of trained staff

**BMP: Parking Lot Sweeping/Vacuuming** PLSV



**PROGRAM ELEMENTS**

- New Development
- Residential
- Commercial Activities
- Industrial Activities
- Municipal Facilities
- Illegal Discharges

**DESCRIPTION:**  
Reduce the discharges of pollutants to stormwater from parking lot surfaces by conducting parking lot cleaning on a regular basis.

**APPROACH:**

- ▶ Resist parking prior to and during sweeping.
- ▶ Establish frequency of sweeping based on anticipated need and observations of debris or sediment accumulation.
- ▶ Increase sweeping frequency just before the rainy season.
- ▶ Lots that generate greater amounts of debris or sediment must be swept more frequently. These include lots associated with or adjacent to recreational, commercial, or industrial areas, or other areas of high vehicle or pedestrian traffic.
- ▶ Manually remove debris from corners or other areas of the parking lot that equipment cannot reach.
- ▶ Keep accurate operation logs to track programs.
- ▶ Equipment selection can be key for this particular BMP. There are two types used: the mechanical broom sweepers (more effective at picking up large debris and cleaning wet streets), and the vacuum sweepers (more effective at removing fine particles and associated heavy metals). It may be useful to have the ability to use both kinds.

**LIMITATIONS:**

- ▶ Conventional sweepers are not able to remove oil and grease.
- ▶ Mechanical sweepers are not effective at removing finer sediments.
- ▶ Effectiveness may also be limited by parking lot conditions, presence of parked vehicles, presence of construction projects, climatic conditions and condition of curbs.

**MAINTENANCE:**

- ▶ Acquisition and maintenance of equipment is generally handled by the company hired to perform the sweeping/vacuuming.

**TARGETED POLLUTANTS**

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

**IMPLEMENTATION REQUIREMENTS**

- Capital Costs
- O&M Costs
- Regulatory
- Training
- Staffing
- Administrative

**IMPACT**

- High Impact
- Medium Impact
- Low or Unknown Impact

**IMPACT**

- High
- Medium
- Low

**POST CONSTRUCTION SITE STORM WATER MANAGEMENT PLAN NOTES:**

- CATCH BASINS ON THE SITE ARE TO BE INSPECTED AND CLEANED IN THE SPRING AND THE FALL AS PER BMP CBC.
- ALL GRASS LANDSCAPING IS TO BE MAINTAINED TO CONTROL EROSION FROM THE SITE.
- PARKING LOT TO BE SWEEPED IN SPRING AND FALL AS PER BMP PLSV.
- THE OWNER OF THE PROPERTY WILL BE RESPONSIBLE FOR IMPLEMENTATION AND MAINTENANCE OF THE ABOVE MENTIONED PRACTICES.

**POST CONSTRUCTION S.W.M.P. NOTE:**

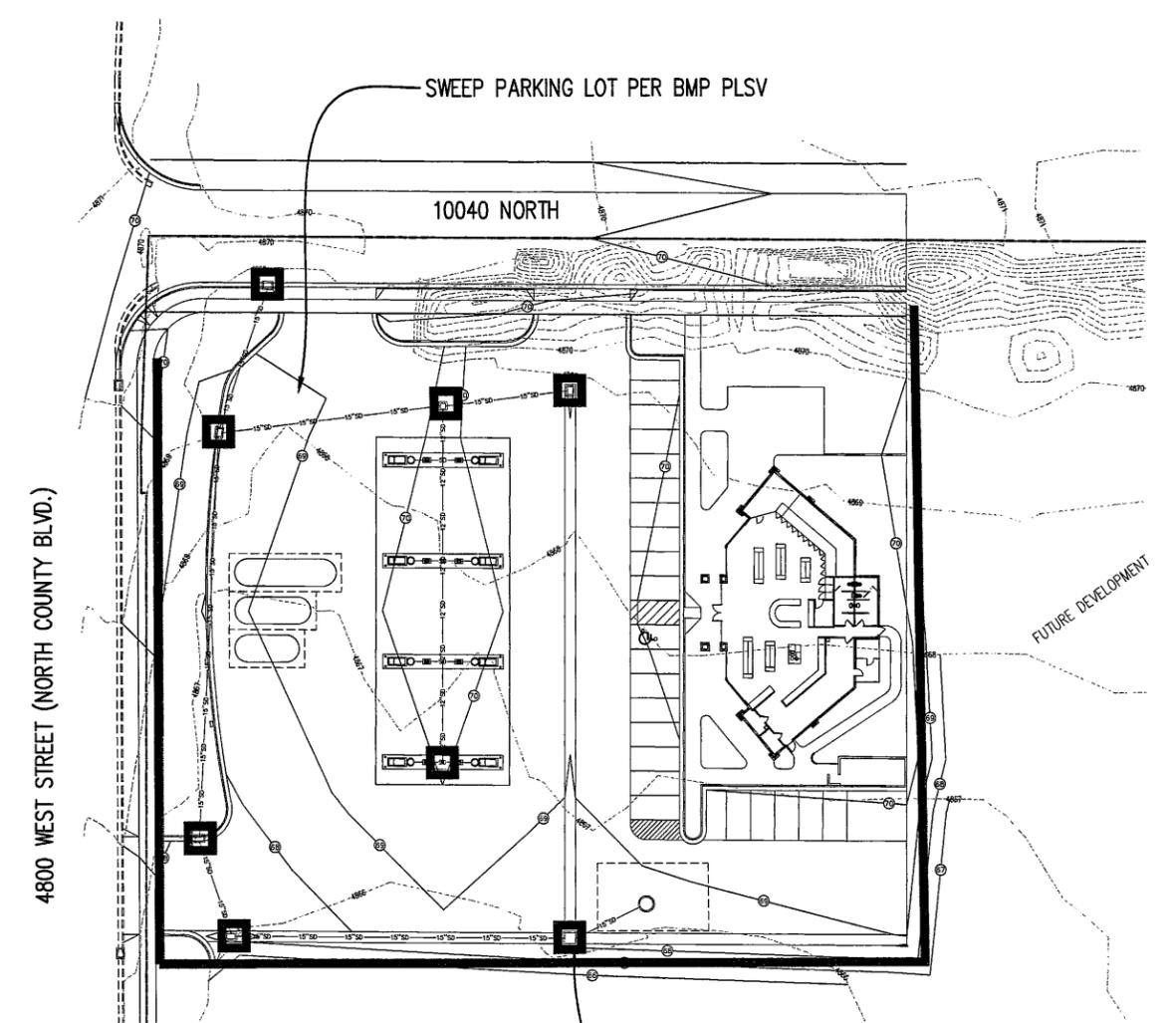
The holders of the business license at this site (or owner of the lot if there is not business license) are responsible to perpetually follow this Post Construction Storm Water Management Plan. Failure to follow the plan may result in the City refusing to renew business licenses or take other action against the property owner.

The objectives of the Plan are to:

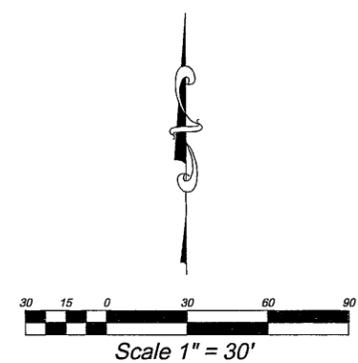
- Control soil erosion.
- Control discharge of sediment into storm drainage facilities or off-site.
- Prevent illicit discharges into on-site soils, into storm drainage facilities or offsite.

If the objectives of the Plan are not being met, the site operator or owner shall make adjustments to the Plan as needed to accomplish its purposes.

Cedar Hills encourages adjustments to the plan that enhance effective storm water management. However, significant reduction of practices contained in the plan is to be accomplished through formal modification of the plan and resubmission to the Development Review Committee for approval.



CATCH BASIN CLEANING PER BMP CBC (TYP. ALL PARKING LOT INLETS)



REVISIONS			
Rev.	Date	Description	App'd.

**Developer: Dave Jardine**  
P.O. Box 418  
American Fork, UT 84003  
Phone: 801-756-9681

**EXCE ENGINEERING**  
David W. Peterson, P.E., License #270393  
12 West 100 North, Suite 201, American Fork, UT 84003  
P: (801) 756-4304; F: (801) 756-4511

**HARTS GAS STATION**  
CEDAR HILLS ADDRESS: 10022 N. 4800 W. UTAH

**POST CONSTRUCTION STORM WATER MANAGEMENT PLAN**

Drawn by: D.W.P.  
Designed by: D.W.P.  
Checked by: D.W.P.

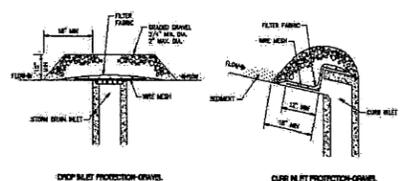
Date: 04/09/12

Scale: 1" = 30'

C6



**BMP: Inlet Protection - Gravel** IPG



**OBJECTIVES**

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion

**DESCRIPTION:**  
Placement of gravel filter over inlet to storm drain to filter storm water runoff.

**APPLICATION:**  
Construct at inlets in paved or unpaved areas where upgradient area is to be disturbed by construction activities.

**INSTALLATION/APPLICATION CRITERIA:**

- Place wire mesh (with 1/2 inch openings) over the inlet grate extending one foot past the grate in all directions.
- Place filter fabric over the mesh. Filter fabric should be selected based on soil type.
- Place graded gravel to a minimum depth of 12-inches, over the filter fabric and extending 18-inches past the grate in all directions.

**LIMITATIONS:**

- Recommended for maximum drainage area of one acre.
- Excess flows may bypass the inlet requiring down gradient controls.
- Ponding will occur at inlet.

**MAINTENANCE:**

- Inspect inlet protection after every large storm event and at a minimum of once monthly.
- Remove sediment accumulated when it reaches 4-inches in depth.
- Replace filter fabric and clean or replace gravel if clogging is apparent.

Adapted from Salt Lake County BMP Fact Sheet

**TARGETED POLLUTANTS**

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

**IMPLEMENTATION REQUIREMENTS**

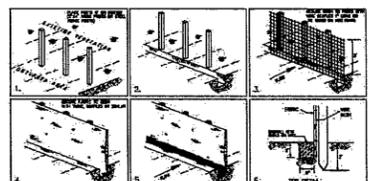
- High Impact
- Medium Impact
- Low or Unknown Impact

**IMPLEMENTATION REQUIREMENTS**

- Capital Costs
- O&M Costs
- Maintenance
- Training

**High**  **Medium**  **Low**

**BMP: Silt Fence** SF



**OBJECTIVES**

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion

**DESCRIPTION:**  
A temporary sediment barrier consisting of entrenched filter fabric stretched across and secured to supporting posts.

**APPLICATION:**

- Perimeter control: place barrier at downgradient limits of disturbance
- Sediment barrier: place barrier at toe of slope or soil stockpile
- Protection of existing waterways: place barrier near top of stream bank
- Inlet protection: place fence surrounding catchbasins

Adapted from Salt Lake County BMP Fact Sheet

**INSTALLATION/APPLICATION CRITERIA:**

- Place posts 6 feet apart on center along contour (or use preassembled unit) and drive 2 feet minimum into ground. Excavate an anchor trench immediately upgradient of posts.
- Secure wire mesh (1/4 gage min. with 6 inch openings) to upslope side of posts. Attach with heavy duty 1 inch long wire staples, tie wires or hog rings.
- Cut fabric to required width, unroll along length of barrier and drape over barrier. Secure fabric to mesh with twine, staples, or similar, with trailing edge extending into anchor trench.
- Backfill trench over filter fabric to anchor.

**LIMITATIONS:**

- Recommended maximum drainage area of 0.5 acre per 100 feet of fence
- Recommended maximum upgradient slope length of 150 feet
- Recommended maximum uphill grade of 2:1 (50%)
- Recommended maximum flow rate of 0.5 cfs
- Ponding should not be allowed behind fence

**MAINTENANCE:**

- Inspect immediately after any rainfall and at least daily during prolonged rainfall.
- Look for runoff bypassing ends of barriers or undercutting barriers.
- Repair or replace damaged areas of the barrier and remove accumulated sediment.
- Reanchor fence as necessary to prevent shortcutting.
- Remove accumulated sediment when it reaches 1/2 the height of the fence.

**TARGETED POLLUTANTS**

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

**IMPLEMENTATION REQUIREMENTS**

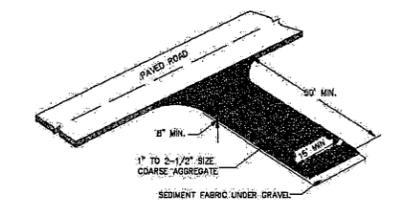
- High Impact
- Medium Impact
- Low or Unknown Impact

**IMPLEMENTATION REQUIREMENTS**

- Capital Costs
- O&M Costs
- Maintenance
- Training

**High**  **Medium**  **Low**

**BMP: Stabilized Construction Entrance and Wash Area** SCEWA



**OBJECTIVES**

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion

**DESCRIPTION:**  
A stabilized pad of crushed stone located where construction traffic enters or leaves the site from or to paved surface. The area can be used to spray off vehicles before they leave the site.

**APPLICATIONS:**  
At any point of ingress or egress at a construction site where adjacent traveled way is paved. Generally applies to sites over 2 acres unless special conditions exist.

Adapted from Salt Lake County BMP Fact Sheet

**INSTALLATION/APPLICATION CRITERIA:**

- Clear and grub area and grade to provide maximum slope of 2%.
- Compact subgrade and place filter fabric if desired (recommended for entrances to remain for more than 3 months).
- Place coarse aggregate, 1 to 2-1/2 inches in size, to a minimum depth of 8 inches.
- Provide water to the area that can be used to spray off vehicles as needed to prevent the tracking of mud off of the construction site. This may not be needed during dry periods of work, but is needed when construction is proceeding under wet conditions.
- Provide berms as needed to prevent sediment laden wash water from entering storm water facilities or other water bodies, or leaving the site.

**LIMITATIONS:**

- Requires periodic top dressing with additional stones.
- Should be used in conjunction with street sweeping on adjacent public right-of-way.
- Must be situated such that waste water does not run off site.

**MAINTENANCE:**

- Inspect daily for loss of gravel or sediment buildup.
- Inspect adjacent roadway for sediment deposit and clean by shoveling and sweeping.
- Repair entrance and replace gravel as required to maintain control in good working condition.
- Expand stabilized area as required to accommodate traffic and prevent erosion at driveways.

**TARGETED POLLUTANTS**

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

**IMPLEMENTATION REQUIREMENTS**

- High Impact
- Medium Impact
- Low or Unknown Impact

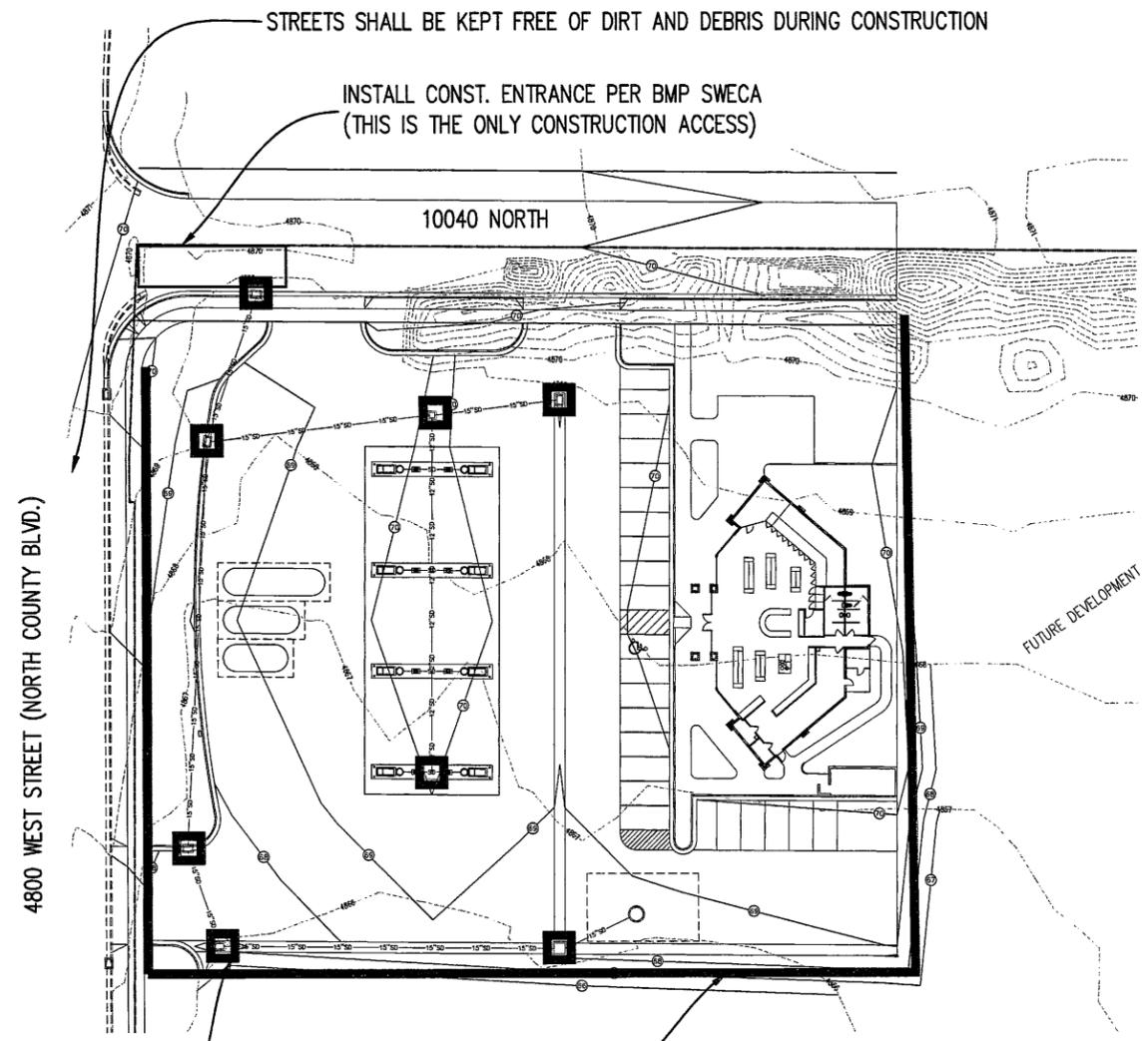
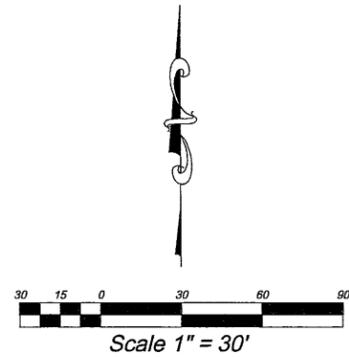
**IMPLEMENTATION REQUIREMENTS**

- Capital Costs
- O&M Costs
- Maintenance
- Training

**High**  **Medium**  **Low**

**STORM WATER POLLUTION PREVENTION PLAN NOTES:**

- CONTRACTOR IS TO READ AND UNDERSTAND ALL BMP PRACTICES PRIOR TO ANY CONSTRUCTION ON THIS SITE. CONTRACTOR IS TO FOLLOW ALL BMP PRACTICES CONTAINED IN THESE PLANS. SEE BMP DETAILS.
- CONSTRUCT A SILT FENCE AS SHOWN ON PLAN. SEE BMP SF.
- INSTALL A CONSTRUCTION ENTRANCE AS SHOWN ON THE PLAN PRIOR TO ANY GRADING ON THE SITE. SEE BMP SCEWA.
- CONSTRUCT STORM DRAIN FACILITIES AND INSTALL INLET PROTECTION ON ALL INLETS AFTER INSTALLATION. SEE BMP IPG.
- CONTRACTOR TO WATER SITE AT LEAST WEEKLY OR MORE FREQUENTLY AS NEEDED TO CONTROL DUST POLLUTION.
- CONTRACTOR IS TO REMOVE INLET PROTECTION FROM CATCH BASINS AND CLEAN-OUT ALL CATCH BASINS BEFORE LEAVING THE SITE. SEE BMP CBC.
- CONTRACTOR WILL BE RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF BMP'S DURING CONSTRUCTION.



INSTALL INLET PROTECTION PER BMP IPG (TYP. ALL INLETS)

INSTALL SILT FENCE PER BMP SF

REVISIONS			
Rev.	Date	Description	App'd
1	03/20/12	REVISED AS PER CITY COMMENTS	

Developer: Dave Jardine  
P.O. Box 418  
American Fork, UT 84003  
Phone: 801-756-9681

**EXCE ENGINEERING**  
David W. Peterson, P.E., License #270393  
12 West 100 North, Suite 201, American Fork, UT 84003  
P: (801) 756-4304; F: (801) 756-4511

**HARTS GAS STATION**  
CEDAR HILLS ADDRESS: 10022 N. 4800 W. UTAH

Scale: 1" = 30'

Designed by: D.W.P.  
Checked by: D.W.P.

Date: 03/08/12

**STORM WATER POLLUTION PREVENTION PLAN**

C4

**Cedar Hills Harts**  
**Storm Water Calculations - 100 year**  
 9-Apr-12

The storm drain calculations were performed using the rational method. These calculations include the Harts Gas Station site as well as 10040 North roadway.

**Hydrologic Calculations**

CA CALCULATION

	C	Area (sf)	C * A
Impervious area	0.9	56324	50692
Pervious area	0.2	11973	2395
<b>Total CA</b>		<b>68297</b>	<b>53086</b>

The measured percolation rate was 1.1 min/in.  
 The infiltration area will be the bottom area of the gravel  
 The infiltration area = (25' x 42') = 1,050 s.f.  
 The infiltration rate = (1,050 s.f.) (1 inch/1.1 min.) (1 ft/12 inch) (1 min./60 sec.) (1 sump) = 1.33 cfs

**Retention calculations**

Lapsed Time (min.)	Rainfall intensity (in/hr)	Total Rainfall (in)	Rainfall Volume (cu.ft.)	Release Volume (cu.ft.)	Required Storage (cu.ft.)
A	B	C	D	E	F
10					
15	5.02	0.83	3672	795	2876
30	4.14	1.04	4601	1193	3408
60	2.79	1.40	6193	2386	3807
120	0.95	1.90	8405	9545	-1140
180	0.65	1.95	8627	14318	-5692
360	0.36	2.16	9556	28636	-19081
720	0.22	2.64	11679	57273	-45594
1440	0.12	2.88	12741	114545	-101805

Required retention Storage = 3,807 cf

**Notes:**

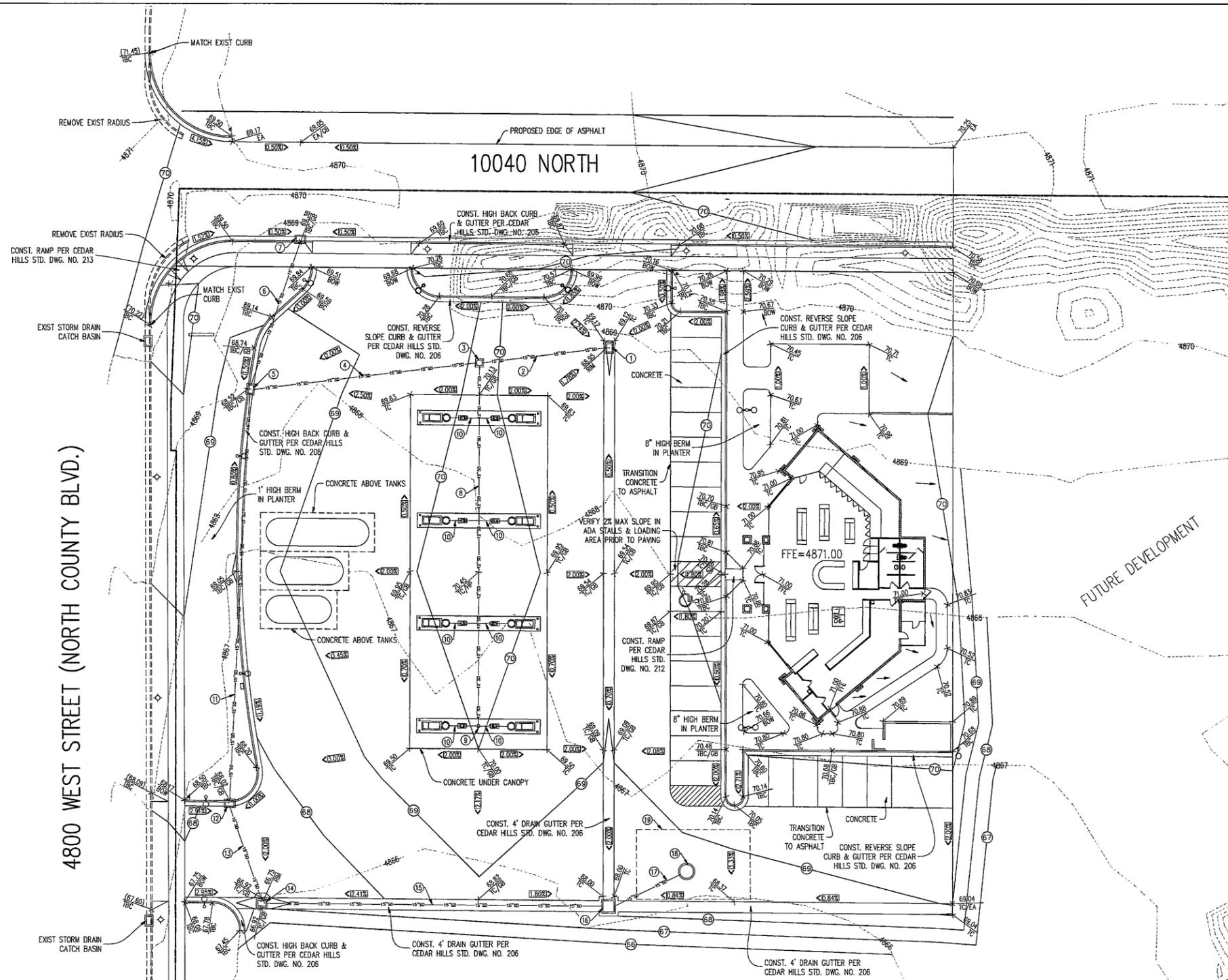
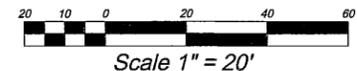
- A, B, & C are based upon Cedar Hills Precip. Table (100-year)
- D = C / (12 inches/foot) x total acreage of site x 43,560 s/acre x run-off coefficient, where Q=CIA and V=CIA
- E = infiltration rate x A x 60 sec.
- F = D - E to determine storage volume

**Storm Drain Discussion**

1. 5' diameter, 10' deep sump with 25' x 42' x 9' deep gravel area around sump (gravel=40% porosity)
2. Sump Elevations: Rim of MH=4868.58, Top of Gravel=4865.58, Bottom of MH sides=4865.58, Bottom of Gravel=4856.58
3. Storage volume of sump manhole with water surface at top of gravel (elev = 4865.58) = 138 c.f.
4. Storage volume of gravel around and below sump with water surface at top of gravel (elev = 4865.58) = 3,701 c.f.
5. Total storage volume of 3,839 c.f. exceeds required storage 3,807 c.f.

**GRADING LEGEND**

FFE	FINISHED FLOOR ELEV.
BOW	BACK OF WALK
GB	GRADE BREAK
TC	TOP OF CONCRETE
TBC	TOP BACK OF CURB
TA	TOP OF ASPHALT
EA	EDGE OF ASPHALT
RIM	RIM ELEVATION
FL	FLOWLINE
EG	EXIST GROUND
FG	FINISHED GRADE
TW	TOP OF WALL
BW	BOTTOM OF WALL
IE	INVERT ELEVATION
→	DIRECTION OF DRAINAGE
○	EXISTING ELEVATION
○	PROPOSED ELEVATION
—	EXISTING CONTOUR
—	PROPOSED CONTOUR



**STORM DRAIN KEYED NOTES**

1. CONST. 2'X3' CATCH BASIN W/ NO FACE INLET, GRATE=4868.95, IE OUT=4865.70
2. CONST. 45.9 L.F. 15" ADS @ S=0.70%
3. CONST. 2'X2' JUNCTION BOX, GRATE=4870.11, 12" IE IN=4866.26, 15" IE THRU=4865.38
4. CONST. 82.2 L.F. 15" ADS @ S=0.70%
5. CONST. 2'X3' CATCH BASIN W/ FACE INLET, GRATE=4868.02, IE THRU=4864.80
6. CONST. 54.7 L.F. 15" ADS @ S=1.00%
7. CONST. 2'X3' CATCH BASIN W/ FACE INLET, GRATE=4868.88, IE OUT=4865.35
8. CONST. 130.3 L.F. 12" ADS @ S=1.00%
9. CONST. 12" NYLOPLAST DRAIN BASIN, RIM=4870.06, 12" IE OUT=4867.56
10. CONST. 10.8 L.F. 3" PVC @ S=1% MIN., CONNECT TO ROOF DRAINS COMING FROM COLUMNS AND CONNECT TO NYLOPLAST DRAIN BASIN AT BOX #9 AND INTO 12" ADS WITH INSERTA-TEE FOR OTHER CONNECTIONS
11. CONST. 147.5 L.F. 15" ADS @ S=0.70%
12. CONST. 2'X3' CATCH BASIN W/ FACE INLET, GRATE=4867.52, IE THRU=4863.77
13. CONST. 36.0 L.F. 15" ADS @ S=0.75%
14. CONST. 2'X3' CATCH BASIN W/ NO FACE INLET, GRATE=4866.75, IE THRU=4863.50
15. CONST. 122.9 L.F. 15" ADS @ S=0.70%
16. CONST. 4'X4' INLET BOX W/ SNOUT TYPE 18" OVER OUTLET, GRATE=4867.83, IE THRU=4862.64, BOTTOM OF BOX=4859.64
17. CONST. 27.0 L.F. 15" ADS @ S=1.00%
18. CONST. 5' DIAMETER, 10' DEEP SUMP PER CEDAR HILLS STD. DWG. NO. 507B, RIM=4868.58, TOP OF GRAVEL=4865.58, 15" IE IN=4862.37, BOTTOM OF SIDES OF MANHOLE=4858.58, BOTTOM OF GRAVEL=4856.58
19. CONST. 25' X 42' X 9' DEEP GRAVEL AREA AROUND SUMP

**BENCH MARK**

WEST 1/4 CORNER, SECTION 6  
 TOWNSHIP 5 SOUTH, RANGE 2 EAST,  
 SALT LAKE BASE & MERIDIAN  
 ELEVATION = 4866.28

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1	03/29/12	REVISED AS PER CITY COMMENTS	
2	04/09/12	REVISED AS PER CITY COMMENTS	

**Developer: Dave Jardine**  
 P.O. Box 418  
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 Phone: 801-756-9681

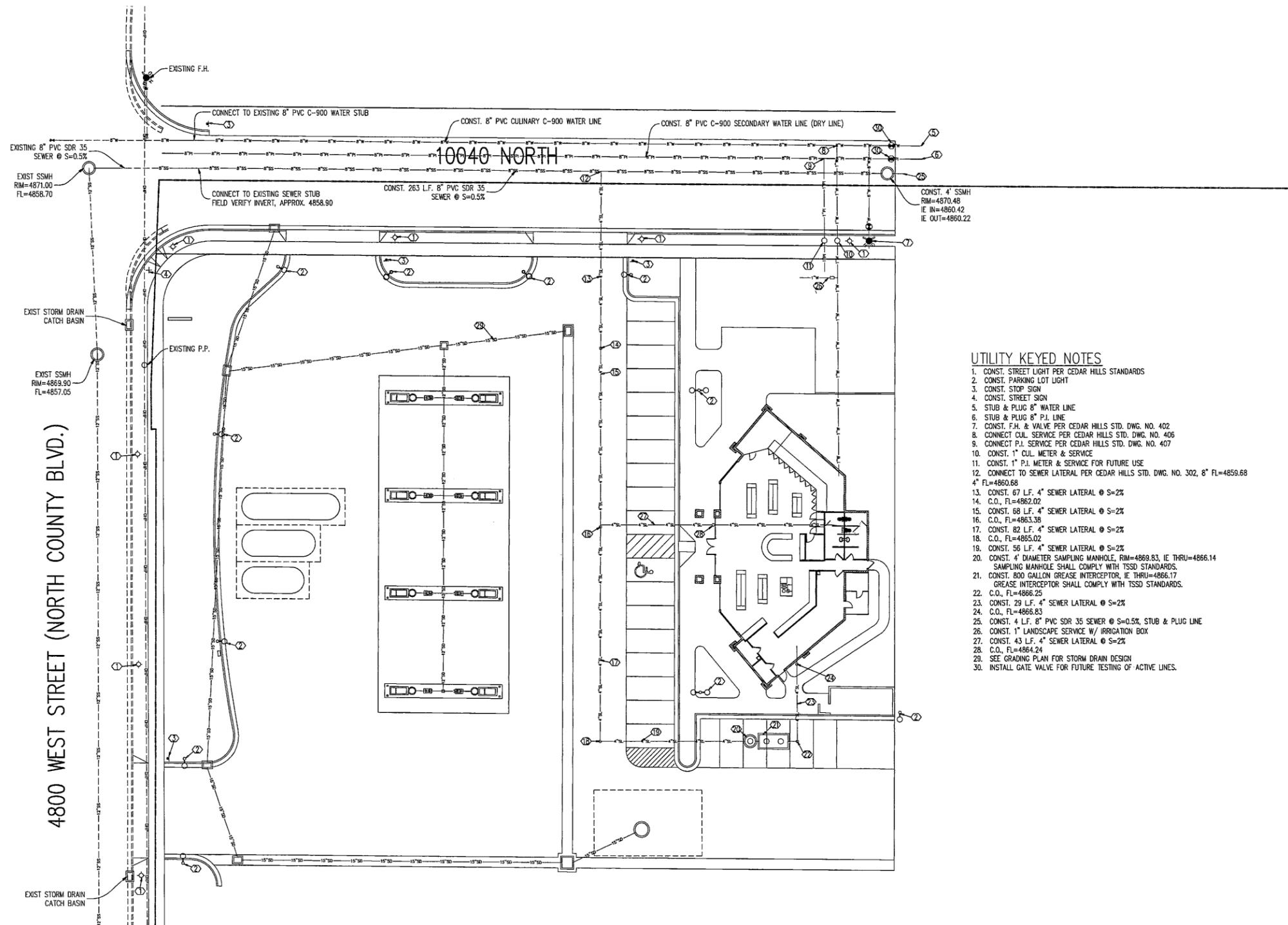
**EXCE ENGINEERING**  
 David W. Peterson, P.E., License #270393  
 12 West 100 North, Suite 201, American Fork, UT 84003  
 P: (801) 756-4304; F: (801) 756-4511

**HARTS GAS STATION**

CEDAR HILLS ADDRESS: 10022 N. 4800 W. UTAH

Drawn by: D.W.P.	Scale: 1"=20'
Designed by: D.W.P.	Date: 03/08/12
Checked by: D.W.P.	C3

**GRADING PLAN**



UTILITY LEGEND	
○	POWER POLE
—	CULINARY WATER PIPE
—	SEWER PIPE PVC SDR-35
—	STORM DRAIN PIPE RCP
—	EDGE OF ASPHALT
—	EXIST FENCE
—	NEW FENCE
—	OVERHEAD POWER LINE
⊕	FIRE HYDRANT
⊕	INSTALL GATE VALVE
⊕	INSTALL STREET LIGHT
+	INSTALL STREET SIGN
⊕	UTILITY KEYED NOTE

**UTILITY KEYED NOTES**

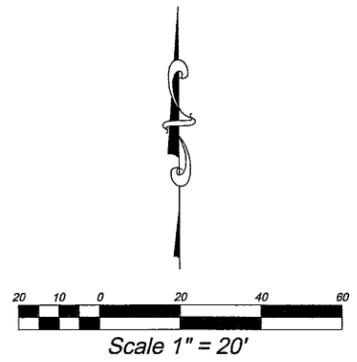
1. CONST. STREET LIGHT PER CEDAR HILLS STANDARDS
2. CONST. PARKING LOT LIGHT
3. CONST. STOP SIGN
4. CONST. STREET SIGN
5. STUB & PLUG 8" WATER LINE
6. STUB & PLUG 8" P.I. LINE
7. CONST. F.H. & VALVE PER CEDAR HILLS STD. DWG. NO. 402
8. CONNECT CUL. SERVICE PER CEDAR HILLS STD. DWG. NO. 406
9. CONNECT P.I. SERVICE PER CEDAR HILLS STD. DWG. NO. 407
10. CONST. 1" CUL. METER & SERVICE
11. CONST. 1" P.I. METER & SERVICE FOR FUTURE USE
12. CONNECT TO SEWER LATERAL PER CEDAR HILLS STD. DWG. NO. 302, 8" FL=4859.68
13. CONST. 67 L.F. 4" SEWER LATERAL @ S=2%
14. C.O., FL=4862.02
15. CONST. 68 L.F. 4" SEWER LATERAL @ S=2%
16. C.O., FL=4863.36
17. CONST. 82 L.F. 4" SEWER LATERAL @ S=2%
18. C.O., FL=4865.02
19. CONST. 56 L.F. 4" SEWER LATERAL @ S=2%
20. CONST. 4" DIAMETER SAMPLING MANHOLE, RM=4869.83, IE THRU=4866.14  
SAMPLING MANHOLE SHALL COMPLY WITH TSSD STANDARDS.
21. CONST. 800 GALLON GREASE INTERCEPTOR, IE THRU=4866.17  
GREASE INTERCEPTOR SHALL COMPLY WITH TSSD STANDARDS.
22. C.O., FL=4866.25
23. CONST. 29 L.F. 4" SEWER LATERAL @ S=2%
24. C.O., FL=4866.83
25. CONST. 4 L.F. 8" PVC SDR 35 SEWER @ S=0.5%, STUB & PLUG LINE
26. CONST. 1" LANDSCAPE SERVICE W/ IRRIGATION BOX
27. CONST. 43 L.F. 4" SEWER LATERAL @ S=2%
28. C.O., FL=4864.24
29. SEE GRADING PLAN FOR STORM DRAIN DESIGN
30. INSTALL GATE VALVE FOR FUTURE TESTING OF ACTIVE LINES.

**NOTES TO CONTRACTOR**

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CURB & GUTTER, STORM DRAIN, & SEWER ELEVATIONS OR INVERTS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER WHEN ELEVATIONS OR INVERTS DO NOT MATCH PLANS.
2. THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS SHOWN IN APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE AND ALL UNDERGROUND UTILITIES, WHETHER OR NOT SUCH FACILITIES ARE SHOWN ON THESE PLANS.

**GENERAL NOTE**

1. ALL WORK TO BE DONE IN ACCORDANCE WITH CEDAR HILLS CITY STANDARDS & SPECIFICATIONS.



**BENCH MARK**  
WEST 1/4 CORNER, SECTION 6  
TOWNSHIP 5 SOUTH, RANGE 2 EAST,  
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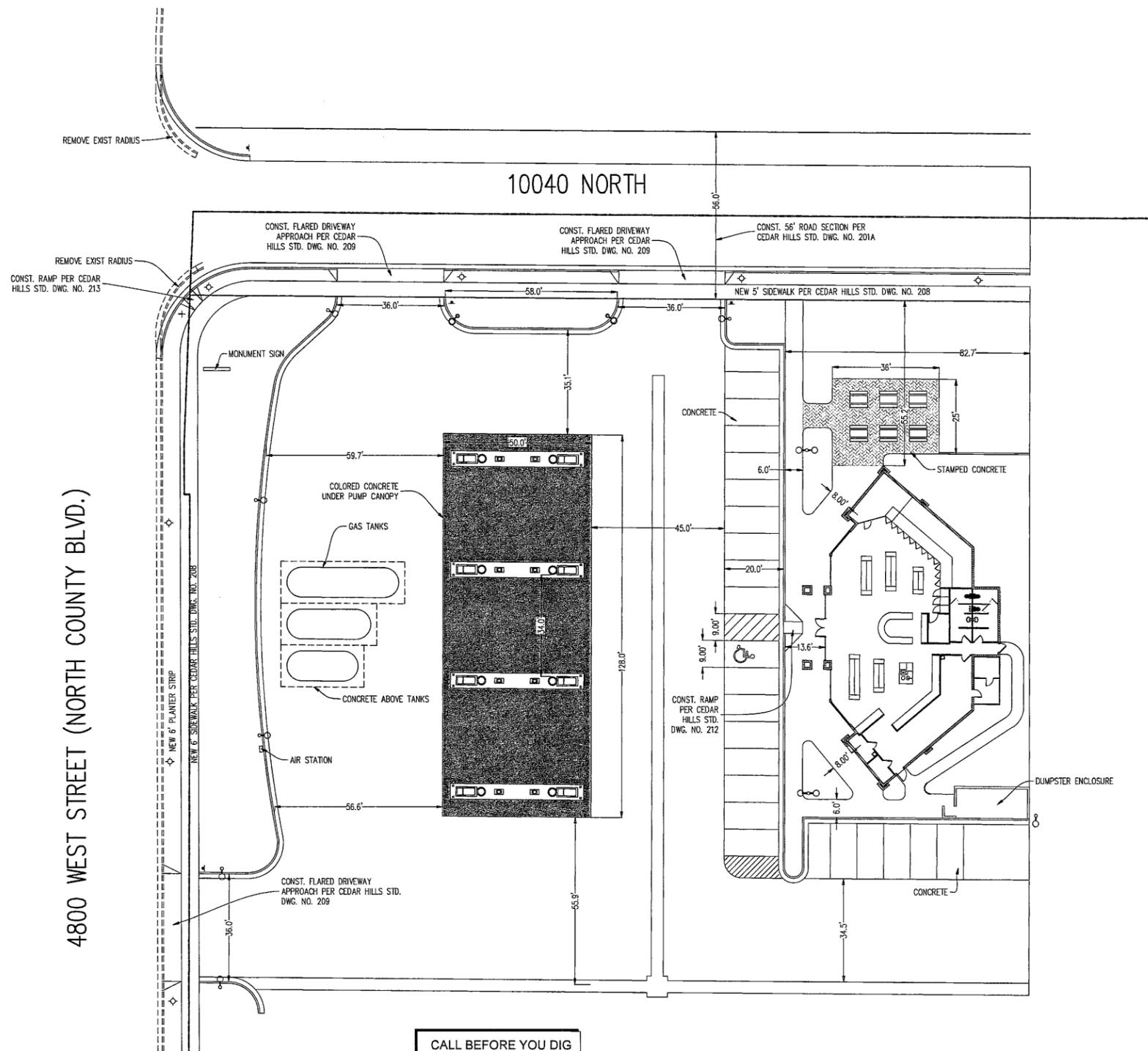
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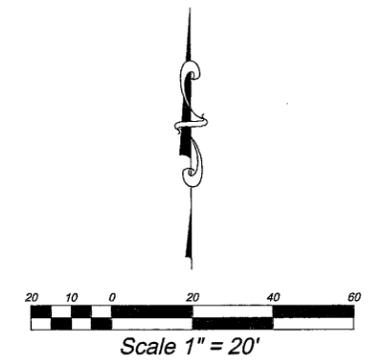
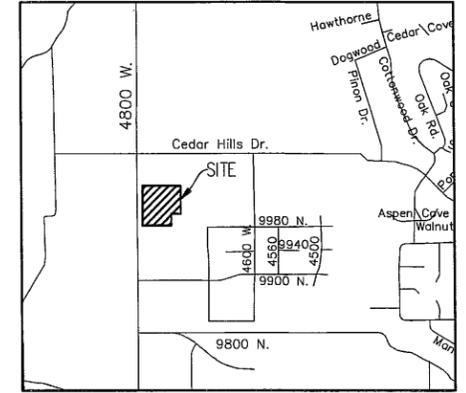
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Date: 03/08/12  
C2

# HARTS GAS STATION



4800 WEST STREET (NORTH COUNTY BLVD.)

## VICINITY MAP



**SITE LIGHTING NOTES:**

1. THE LIGHTS THAT WILL BE INSTALLED IN 4800 WEST AND 10040 NORTH WILL BE ACCORDING TO THE CITY STANDARD LIGHT DETAILS.
2. THE LIGHTING UNDER THE PUMP CANOPY WILL DIRECT LIGHT DOWNWARD AND KEEP THE LIGHT ON THE SITE. THE PARTICULAR LIGHT FIXTURE PROPOSED IS AN 320 WATT LSI ENCORE FLAT LENS FIXTURE.
3. SITE LIGHTING FOR THE ENTRANCES, PARKING, AND BUILDING WILL BE INSTALLED TO KEEP LIGHT DIRECTED INTO THE PROPERTY AND TO AVOID LIGHT POLLUTION OF SURROUNDING PROPERTY.

**PAVEMENT DESIGN:**

**ASPHALT:**  
 3.5" ASPHALT OVER  
 6" AGGREGATE BASE COURSE OVER  
 6" SUBBASE (STRUCTURAL SITE GRADING FILL) OVER SUITABLE NATURAL SOILS AND/OR STRUCTURAL SITE GRADING FILL EXTENDING TO SUITABLE NATURAL SOILS

**CONCRETE:**  
 5.0" PORTLAND CEMENT CONCRETE (NON-REINFORCED) OVER 6" AGGREGATE BASE COURSE OVER SUITABLE NATURAL SOILS AND/OR STRUCTURAL SITE GRADING FILL EXTENDING TO SUITABLE NATURAL SOILS

(\*IMPORTANT\*: REFER TO SOILS REPORT FOR ENTIRE SUBBASE PREPARATION INSTRUCTIONS)

**SITE SOUND LEVEL DISCUSSION:**

1. THE VEHICLE THAT WILL CREATE THE GREATEST SOUND LEVEL ON THIS SITE WILL BE THE DIESEL TRUCKS THAT DELIVER FUEL.
2. THE SOUND LEVEL OF THE DIESEL TRUCKS ARE APPROXIMATELY 90 DB.
3. THE SOUND LEVEL OF BUSY TRAFFIC SIMILAR TO WHAT EXISTS DURING PEAK TRAFFIC PERIODS ON 4800 WEST IS APPROXIMATELY 80 DB.
4. THE CLOSEST HOMES TO THE PROPOSED GAS STATION ARE APPROXIMATELY 500 FEET AWAY.
5. USING A FORMULA TO CALCULATE THE DAMPING OF SOUND LEVELS WITH DISTANCE FROM THE GENERATED SOUND, THE SOUND LEVEL FOR THE DIESEL TRUCK WILL DROP APPROXIMATELY 10 DB. THIS WILL RESULT IN A SOUND LEVEL OF APPROXIMATELY 80 DB AT THE CLOSEST HOME.
6. BASED ON THIS EVALUATION, THE GAS STATION WILL NOT INCREASE THE SOUND LEVEL THAT CURRENTLY EXISTS ON 4800 WEST STREET. THE GAS STATION IS PROPERLY SITUATED IN THE COMMERCIAL ZONE TO PROVIDE AN ADEQUATE BUFFER TO MINIMIZE THE SOUND LEVEL TO THE CLOSEST HOMES.

**SHEET INDEX**

C1	SITE PLAN
C2	UTILITY PLAN
C3	GRADING PLAN
C4	STORM WATER POLLUTION PREVENTION PLAN
C5	FUTURE DEVELOPMENT PLAN
C6	POST CONSTRUCTION STORM WATER MANAGEMENT PLAN

**LAND TABULATIONS**

ITEM	AREA	%
TOTAL AREA (S.F.):	64,341	100%
PUBLIC ROADWAY AREA (S.F.):	3,956	6.2%
LANDSCAPED AREA (S.F.):	17,641	27.4%

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 SALT LAKE CITY, UTAH 84101

**BENCH MARK**  
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**SITE PLAN**

C1