APPENDIX C:
DRAFT OPERATIONS PLAN



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DRAFT OPERATIONS PLAN

Brew Yard Inert Debris Engineered Fill Operation
15801 W 1st Street
Irwindale, California 91706

December 1, 2025

Property Owner:

IBY Property Owner, LLC
711 Broadway, 6th Floor
San Antonio, TX 78215

Prepared by Operator:

Heavy Iron Contracting, LLC
981 W Arrow Highway #358
San Dimas, CA 91773

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1.0 GENERAL INFORMATION

1.1 Location

The Brew Yard Inert Debris Engineered Fill Operation (IDEFO) is operated by Heavy Iron Contracting, LLC ("Operator") and is located across five parcels on the proposed tentative parcel map totaling approximately 149.9-acres northwest of the intersection of West 1st Street & Irwindale Ave, Irwindale, CA 91706 (Figure 1). The property consists of Los Angeles County Assessor's Parcels #XXX. The property is bordered by West 1st Street to the South, Santa Fe Dam Recreational Center to the West, Irwindale Avenue to the East, and the 210 Freeway to the North.

1.2 Zoning

The site is currently designated as "Heavy Manufacturing" under the current City of Irwindale General Plan and will be designated as "Irwindale Brew Yard Specific Plan" upon adoption. At completion of the IDEFO, the site will consist of a flat pad suitable for development in conformance with the requirements of the zoning and the site re-use plans. The property owner will submit development plans at an appropriate time. The IDEFO will bench fill contacts to native sediment in the sidewalls of the former quarry to minimize structural setbacks.

1.3 Consistency with General Plan

The Brew Yard IDEFO is consistent with the current City of Irwindale General Plan.

1.4 Classification and History

IBY Property Owner, LLC, and hereafter ("Owner") is the current owner of The Brew Yard IDEFO. Based on historic topography, it appears that Quarry activities at the site began during the 1930s (USGS, 1939). Two now-abandoned quarries are located in the northwestern and southeastern site areas (Figure 2). The northwestern quarry spans Parcels Y and Z. It is approximately 52 acres at the surface grade and will require approximately 6 million cubic yards to fill. The southeastern quarry is located in Parcel X, is approximately 25 acres at the surface grade, and will require approximately 2 million cubic yards to fill. The maximum depths of the northwest and southeast quarry pits are approximately 270 feet and 140 feet, respectively. Fill material from the northwestern quarry will be moved and placed in the southeastern quarry as shown in the Phase I Rough Grading Plan (Appendix A). The northwestern quarry fill operation will be administered by the PH II Rough Grading Plan (Appendix A).

On DATE, the City of Irwindale certified a final Environmental Impact Report (EIR) SCH No. XXX for the future development of the property and the preceding IDEFO. Regional Water Quality Control Board (RWQCB) adopted Waste Discharge Requirements (WDR) contained in Order XXXX on DATE. In MONTH of YEAR, the City of Irwindale approved the Phase I Rough Grading Plan and Phase II Rough Grading Plan (Appendix A) for the 25 acre and 52 acre quarries respectively.

1.5 Types and Quantities of Inert Material

Import types approved by the RWQCB include the following:

- Clean Dirt;
- Brick;
- Rock;
- Asphaltic Material (fully-cured);
- Concrete; and
- Other inert materials (e.g. glass, etc.).

Based on experience at similar sites, the project calculates that an average truck load is approximately 8.65 cubic yards. This number varies from the Los Angeles County volume due to the widely differing nature of the arriving trucks (e.g. super 10, bottom dumps, end dumps, pick-up trucks, etc.). The IDEFO load count typically range from 0-300 loads/day but may range up to 600 loads/day. This import rate will fluctuate based on source material availability, weather, hours of operation, days of operation and numerous other factors.

Import material may also be supplemented or replaced entirely by means of rail. Rail cars volumes can vary from 50 to 90 cubic yards depending on the type of rail car. Rail import will range from 0-100 cars/day. The import rate will fluctuate based on source material availability, weather, rail transit availability, hours and days of operations and numerous other factors. Rail viability will be confirmed at a later date prior to start of IDEFO operations.

1.6 Load Capacity

The highly variable nature of the import precludes definitive tonnage. Per the WDRs, a scale house is not required. The project does not charge importers based on tonnage. The County of Los Angeles allows for weight estimates by truck and rail type. The project assumes that 1 cubic yard of soil weighs approximately 1.5 tons. The approximately 8 million cubic yard project therefore equates to approximately 12 million tons, assuming the import is soil. Note that the IDEFO is not restricted to soil and that inert debris may weigh more (or less) per ton.

1.7 Hours of Operation

The hours of operation are 6 a.m. to 5 p.m. Occasional night delivery is permissible with approval from City of Irwindale. Generally, the site is open except on Sundays and Holidays. Sunday and holiday import is permissible, although it is not routine, contingent on City of Irwindale approval. Routine site and equipment maintenance occurs during normal hours of operation.

1.8 Management and Organization

Operator Information
Heavy Iron Contracting, LLC

Address
981 W Arrow Highway #358
San Dimas, CA 91773

Telephone
(951) 830-9703

Site Manager
John Bachmann

Owner Information
IBY Property Owner, LLC

Address
711 Broadway, 6th Floor
San Antonio, TX 78215

Telephone
(213) 925-0990

Contact Name
Adam Sher

2.0 OPERATION

2.1 Site Plan

The site (Figure 2) is approximately 149.9 acres in total area. Of this acreage, the operations area is approximately 51% of the total acreage.

A temporary office trailer will be staged in the operations area. Trucks will enter through the West 1st Street entrance, remove tarps and check in at the inspection station. There is adequate room for trucks to park onsite. Offsite parking or staging of trucks is not allowed. The location of the check-in station is approximately 2,800 feet into the property in order to handle peak loading. After inspection and paperwork processing, the trucks will be directed to an offloading area.

Temporary movable structures (inspection stations, portable toilets, sun shades, etc.) will be installed throughout the site, as appropriate. Employee parking areas move based on the operational locations, but are generally near the areas near the gated entrance. Shaker plates at the end of unpaved site roads will minimize fugitive dust and tracking of soil onto public roads. A street sweeper will service First Street.

Signage will indicate the operator, telephone numbers, fee schedule, hours and import restrictions. SCAQMD-conforming signage regarding fugitive dust will also be installed. The site is fenced and security may be on site during all hours of closure once equipment is located on site. Gates will be locked at the end of each day and any unauthorized access will be reported to the appropriate agency (police, etc.).

2.2 Waste Processing

Following initial inspection, loads are directed to processing / placement areas, based on the nature of the import. Trucks are unloaded under the direction of the trained and supervised spreading area crews. Loads are managed using a bulldozer, track and wheeled loaders, excavators, motor grader, rock trucks or other equipment. Following spreading, the loads are inspected for non-compliant materials. Non-compliant materials are segregated and removed. Material imported by rail will be inspected before unloading and moved to the processing / placement areas using wheeled loaders.

Concurrent with removal of non-compliant materials, material is processed, as necessary, with the processing equipment in order to create fill specification compliant material. Finer grained material is mixed into each lift to minimize nesting. The design fill consists of a mixture of sediment sizes and includes fines and gravel-sized debris. Debris will be processed to reduce the size to 12' minus per geotechnical requirements for compaction. The resultant mixture is inspected and approved by the project geotechnical engineer and is placed in thin lifts to maximize compaction.

Each lift is moisture conditioned and is compacted by both track (bulldozer) and wheeled equipment (import trucks, water trucks, rock trucks, loaders, etc.). Compaction monitoring and testing is conducted by a California Professional Geotechnical Engineer to assure that the material is properly compacted. Settlement monitors are slated for placement at select locations. Areas that do not pass the compaction standards are excavated and re-placed.

2.3 Load Checking Program

Based on the Load Checking Program and Waste Acceptance Plan (Exhibit 1), potential importers contact the business office to obtain import approval. Material profiles are evaluated by the project team. Any additional testing is performed by the importer under the oversight of the project team. Profiles are reviewed and import is either rejected or accepted. Laboratory reports are placed in the project file. Acceptance (or rejection) letters are sent to the importer, as appropriate.

The loads are logged into the RWQCB required tracking system and inspected (including gas testing) by a trained inspector under the direct technical supervision of a California Registered Engineer or Geologist. The inspection station is mobile and moves based on operational needs. Rejected loads are not unloaded but are directed to immediately leave the Site.

Depending on the nature of the load, the material is routed to various spreading and placement areas. It is spread in a single lift and is inspected and gas-tested. Any suspect material is removed and stockpiled, pending removal by the importer or further testing. Compliant material is relinquished to the operator and the engineer for processing and placement.

2.4 Equipment

All equipment listed herein will conform to the latest US EPA regulations.

Transfer Equipment
Four (4) CAT 745 rock trucks are used to move material from various onsite locations.

Recovery Equipment
Street Sweepers (2) recover tracked dirt.

CAT 336 (1) excavator (with grapple attachment) recover reject metal, which is then placed in high-side end-dumps for offsite recycling.

Trash is placed in roll-off bins for frequent disposal.

Processing Equipment
CAT 834 Rubber Tire Bulldozer (3);
CAT D10 Track Dozer (1);
CAT 988 Wheel Loader (2);
CAT 336 Excavator (4);
5,000 Gallon Water Truck (3);
LT 120 Crusher (3);

2.5 Standby Equipment

Standby equipment is available from local rental agencies.

2.6 Hazardous Waste - Inspection of Incoming Material

Hazardous waste is not accepted into the facility.

Rejected loads (excess vegetation, trash, etc.) that are not unloaded are logged at the inspection station. License numbers of reject loads are documented by the inspection station and the truckers are not allowed to off-load their trucks.

Reject that is discovered during spreading and processing are staged into roll-off bins and exported for legal offsite disposal on a frequent basis.

Some truckers arrive at the gate without pre-clearance through the operations office. If the loads are obviously acceptable (concrete, glass, rock, etc.), they are inspected, accepted and allowed through the inspection station.

2.7 Salvaging

An excavator (with grapple attachment) recovers reject steel which is then placed in high-side end-dumps for offsite recycling. The operation removes reject import within 7 days from the date of receipt. The exception is steel (primarily rebar) that is obtained during processing of rebar-containing concrete. This material is recycled subject to the price of recycled steel, availability of trucking, and other factors.

2.8 Training

Supervisory personnel are responsible for training employees. Adequate supervision is in place during business hours. The project team includes management, load inspectors, entrance gate personnel, heavy equipment operators, water truck and street sweeping crews, engineering and environmental staff.

Infractions of company policy result in verbal and/or written warnings, suspension from work or dismissal. Weekly safety meetings reiterate key points and new topics are discussed at each meeting. Topics include, but are not limited to:

- Proper use of inspection station equipment;
- Proper use of personal protective equipment;
- Company policy when working in the vicinity of heavy equipment;
- Detection and safe handling of suspect hazardous materials;
- Housekeeping standards;
- Cal-OSHA Injury Illness Prevention Program;
- Emergency notifications procedures including appropriate contact persons and agencies;
- 911;
- Spill containment;
- Fire escape routes and location and operation of fire extinguishers;
- Evacuation procedures;
- Location of first aid supplies; and
- Lock out/tag out procedures.

In accordance with the Injury and Illness Prevention Program, training is provided as follows:

- Prior to assignment, facility supervisors give all employees training in station operation, maintenance, equipment operation, health & safety, environmental controls, emergency procedures and other subjects as needed.
- New employees are supervised until they complete the required operational training.
- Whenever an employee is given a new job assignment for which training has not been previously provided.
- Whenever new substances, processes, procedures, or equipment which represent a potential new risk are introduced into the workplace.
- Whenever the Company is made aware of a new or previously unrecognized risk.
- Whenever the Company, Site Manager, or Supervisor deems additional training necessary.

Training records are maintained and available for inspection.

2.9 Site Storage

The site is used for the temporary storage of equipment and materials by the Operator. The amount of storage varies based on supply and demand. The location of the storage area changes periodically due to facility operations. There is no long-term stationary storage.

3.0 ENVIRONMENTAL CONTROLS

3.1 Noise

The operation is monitored by the project team using an operator owned sound meter. Speeds are limited to 15 MPH and no revving of engines is allowed. Noise shall abide to Irwindale Municipal Code 9.28.

3.2 Odor

Odor is not an issue at an IDEFO. The only possible sources of odor are vehicle exhaust, temporary restrooms and food-related trash. This issue is addressed with continuous cleaning of the facilities and frequent disposal of trash.

3.3 Litter

Trash cans and any loose trash are serviced / disposed on a daily basis. Windblown trash is policed on a daily basis.

3.4 Dust

Two street sweepers operate continuously during business hours to minimize fugitive dirt and dust. All on-site vehicles are restricted to 15 MPH to minimize dust. The site is continuously watered by the water trucks to minimize fugitive dust. The site shall conform with SCAQMD Rule 403 for fugitive dust.

3.5 Rodents and Insects

Vector control is managed by the operator. No trash is present that would attract birds. The site is completely fenced and animals are not allowed on site.

3.6 Fires

Landfill fires are not associated with an IDEFO. A water truck can be used to direct a spray and extinguish any vehicle fire that might occur. Fire extinguishers are available on all vehicles and the site is within the jurisdiction of the Fire Department. The site complies with local fire ordinances. There are no recent records of fires or violations of regulations. The inert materials are not flammable. No burning is allowed.

3.7 Sanitary Facilities

Portable toilets and associated hand washing equipment will be in place in the office trailer, near the inspection station and near active operations.

3.8 Accidental Spills

In the event a spill occurs, the appropriate agency (e.g. 911, etc.) will be notified and the proper steps for immediate abatement will be taken.

4.0 SEQUENCE OF DEVELOPMENT

4.1 Site Development Plan

A site map is included as Figure 2, detailing the area of the Site.

4.2 Final Elevations

Final elevations are currently shown in Appendix A (Rough Grading Plans Phase I and Rough Grading Plans Phase II). The future development plan will be finalized over the next several months through the entitlement review process and final elevations may be adjusted.

5.0 GEOLOGY AND GROUNDWATER

5.1 Underlying Geology

Most of the San Gabriel Valley is underlain by alluvial fans shed southward primarily from the San Gabriel Mountains and, to a lesser degree, from the other nearby ranges. The basement rock of the San Gabriel Mountains includes Cretaceous-aged quartz-diorite that has been intruded and faulted into older metamorphic rocks. Materials shed from these "basement complex" igneous and metamorphic rocks tend to consist primarily of larger, erosion-resistant gravels and sands with relatively minor amounts of silt and clay. Alluvial deposits outside of and beyond the immediate influence of the major drainage systems consist of sand and gravel with discontinuous lenses of silt and clay.

The site was quarried in the past to extract the gravelly alluvial sediments deposited largely within the braided San Gabriel River drainage and alluvial fans. These materials consist primarily of weakly cemented sand, gravel, and cobbles, and boulders that are beige-tan-brown in color. The coarse-grained alluvium grades laterally into the finer grained materials comprising the adjacent floodplain deposits.

5.2 Ground Water

The RWQCB adopted a revised Water Quality Control Plan for the Los Angeles Region on June 13, 1994. The Plan contains beneficial uses and water quality objectives for ground water in the Upper Santa Ana Valley Basin. Beneficial uses of the ground water in the Upper Santa Ana Valley Basin include municipal, agricultural, and industrial services and process supply. The requirements contained in the Order, as they are met, will conform to the goals of the Water Quality Control Plan.

5.3 Drainage Control

No storm water or other waters drain to city stormwater infrastructure. An existing drainage culvert located at the southwest corner of the property allows stormwater drainage to the Santa Fe Dam in overflow conditions. Percolates and migration to the water table will displace the majority of rain water. The only water used during IDEFO is for dust control and moisture conditioning.

The site is located in a 100-year flood zone according to the Irwindale General Plan due to the property being near the Santa Fe Dam Flood Control Basin. However, the vast majority of the site, except for the southwestern most portion of Parcel XX beyond the existing perimeter road is or will be at a higher elevation of the crest of the Santa Fe Dam. Therefore it is considered the potential for flooding and inundation at the site to be low.

5.4 Leachate Control

The site is monitored to satisfy the requirements of the RWQCB. Monitoring complies with the provisions of the MRP No. XXX. Appendix B contains a copy of WDR Order XXXX. Based on the type of fill materials, only hardness from dissolution of concrete would be a leachate source.

The project does not place concrete into standing water. The site does not have a leachate collection system or any associated monitoring requirements.

5.5 Groundwater Monitoring

Monitoring and reporting is done to comply with the provisions of the WDR Order No. XXX and MRP No. XXX (adopted DATE), of the RWQCB. MRP No. XXX requires quarterly reports on disposal activities and ground water quality. Monitoring reports will be submitted by the dates in the following schedule:

Reporting Period	**Reporting Due**
January – March	April 15
April – June	July 15
July – September	October 15
October – December	January 15

5.6 Landfill Gases

Landfill gases are not generated by an IDEFO and therefore, are not an issue.

5.7 Future Site Use

Use of the site after termination of IDEFO will be determined during the entitlement process and will comply with CEQA, as appropriate. At completion of the IDEFO, the site will consist of a flat pad suitable for development in conformance with the zoning and the site re-use plans.

6.0 Operating Records

The following records shall be maintained at the site for at least 3 years and shall be available for inspection by authorized representatives of the duly authorized regulatory and enforcement agencies during normal working hours:

- Daily log book describing special occurrences and methods used to resolve problems arising from these events, including details of all incidents requiring the implementation of emergency procedures.
    - Special occurrences shall include, but are not limited to: receipt or rejection of prohibited wastes, fires, accidents, injury and property damage, flooding, earthquake damage, written or oral complaints received from the public and other unusual occurrences.
    - The operator shall notify the LEA within 24 hours of all incidents requiring entries into the special occurrence book.
- Copy of the written notice to the LEA specifying the names, addresses, and telephone numbers of the persons responsible for the operation;
- Records of employee training; and
- Records of all water monitoring, as available and as required.

Los Angeles County-Department of Public Health
Quarterly and/or unannounced inspections by the LA County Solid Waste Management Program.

Regional Water Quality Control Board
Quarterly Progress Reports are provided to the RWQCB. Additionally, semi-annual monitoring reports as a part of the Detection Monitoring Program will be uploaded to the Geotracker database, and an annual report in compliance with the RWQCB Revised Monitoring and Reporting Program XXX (Appendix B).

All reports are filed with the applicable agency. Copies of the reports are available at the agency offices as well as at the project site. RWQCB required reports are uploaded to the Geotracker website and the PDF's can be downloaded.

7.0 STATEMENT

Operation Address:

Heavy Iron Contracting, LLC

15801 First Street

Irwindale, CA 91706

(951) 830-9703

Main Office:

Heavy Iron Contracting, LLC

981 W Arrow Highway #358

San Dimas, CA 91773Address Line 2

(951) 830-9703

Property Owners:

IBY Property Owner, LLC

711 Broadway, 6th Floor

San Antonio, TX 78215

(213) 925-0990

Under penalty of law, this information is true and accurate to the best of my knowledge.

_____

John Bachmann - CONTRACTOR

FIGURE 1

SITE LOCATION

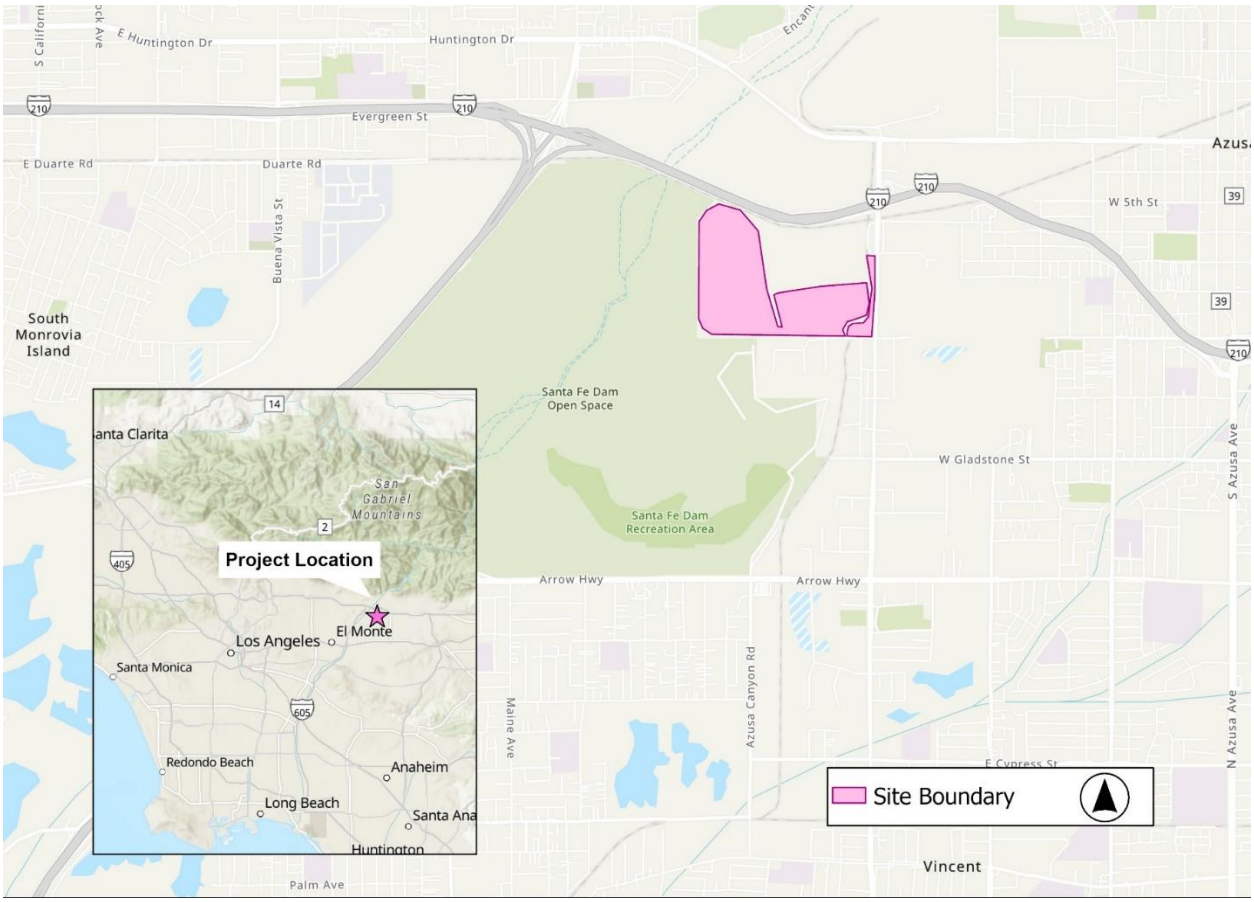
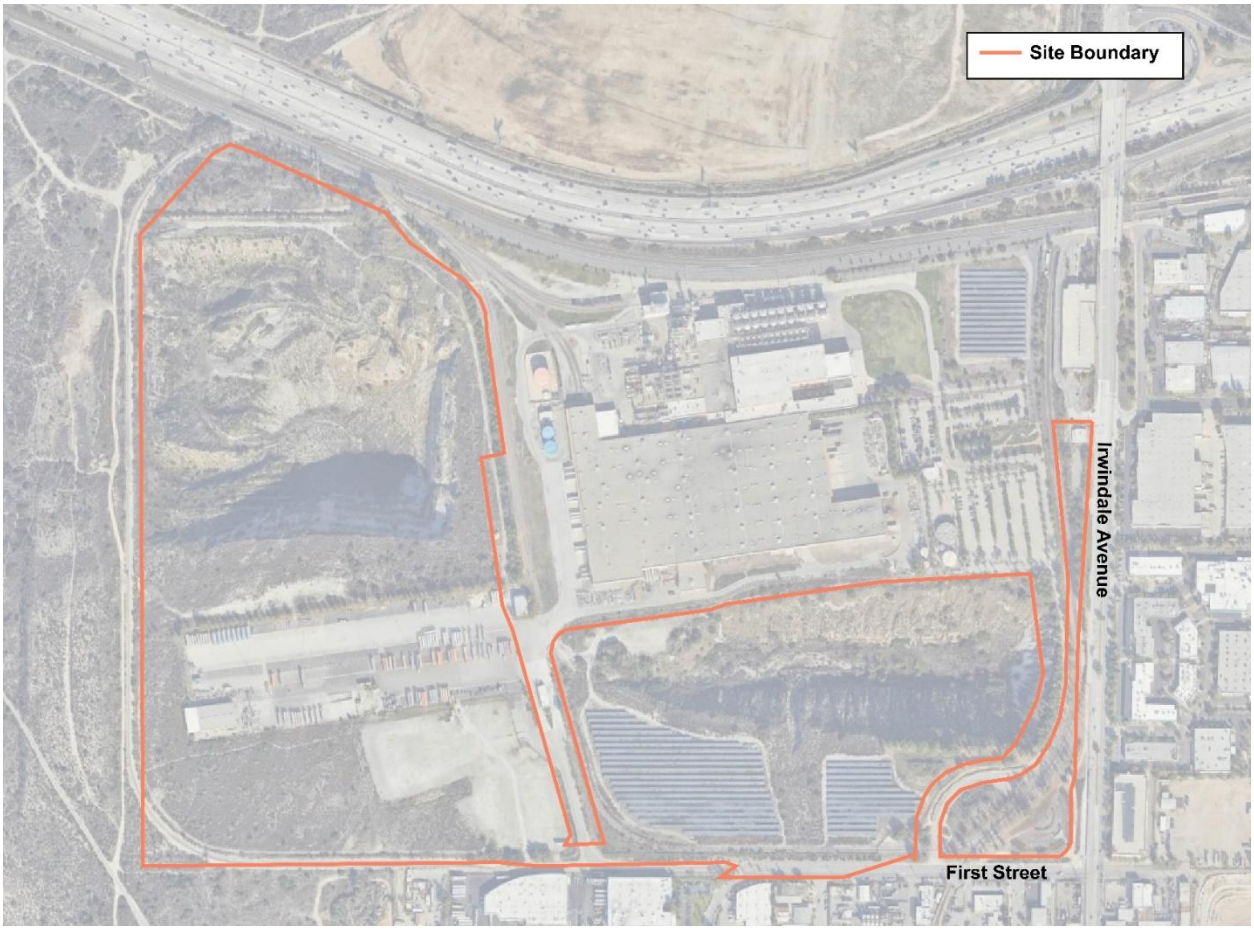


FIGURE 2

SITE MAP



Drawing name: K:\ORA_LDEV\194466001 - Irwindale Brew Yard\CADD\Exhibits\2024.02.19 - Operations Plan\OPERATIONS PLAN.dwg OPERATIONS Feb 26, 2024 10:09am by: Francisco.Carranco
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I-210

ATCHISON TOPEKA & SANTA FE RAILWAY

(554.00EG)

(553.00EG)

(552.00EG)

(550.00EG)

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(539.00EG)

(534.00EG)

(529.00EG)

(525.00EG)

(520.00EG)

(519.00EG)

(515.00EG)

(514.00EG)

(512.70EG)

LIMITS OF WORK

30' ACCESS ROAD

UNLOADING AREA A

UNLOADING AREA B

UNLOADING AREA C

UNLOADING AREA A

SALVAGE STORAGE

STORAGE AREA

OFFICE

PARKING AREA

CONSTRUCTION FENCE

EXISTING BERM TO REMAIN

EXISTING RAILROAD CULVERT TO REMAIN

INSPECTION STATION

EXIT

ENTRANCE

SITE ACCESS ROAD

FIRST STREET
SEE INSET AT RIGHT

TEMPORARY RETENTION BASIN

IRWINDALE AVE

S MOTOR AVE

PROPERTY LINE

S PECKMAN RD

FIRST STREET

INSET
SCALE 1" = 200'

NORTH

GRAPHIC SCALE IN FEET
0 50 100 200
1" = 100'

DIGALERT
DIAL BEFORE YOU DIG — TWO WORKING DAYS BEFORE YOU DIG
TOLL FREE 1-800-227-2600
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

ISSUE	DATE	DESCRIPTION

JB
DRAWN BY
HD
CHECKED BY
TG
RECOMMENDED

LICENSED PROFESSIONAL

TERRENCE GAINES

CA LICENSE NUMBER 89265
EXP. DATE: 12/31/2024

Kimley»Horn
1100 TOWN AND COUNTRY RD
SUITE 700, ORANGE, CA 92868
(714) 939-1030

PREPARED UNDER THE DIRECT SUPERVISION OF:

DATE:

TERRENCE GAINES, R.C.E. NO. 89265 EXP. 12/31/24

PROJECT ID: 194466001

CITY OF IRWINDALE, CA

OPERATIONS PLAN

SHEET 1
OF SHEETS 1
CITY PROJECT NO.

APPENDIX A

CITY OF IRWINDALE ROUGH GRADING PLANS

1. ROUGH GRADING PLANS PHASE I
2. ROUGH GRADING PLANS PHASE II

ROUGH GRADING PLANS
PHASE 1
FOR
IRWINDALE BREW YARD

15801 W 1ST STREET
IRWINDALE, CA 91706

PROJECT TEAM

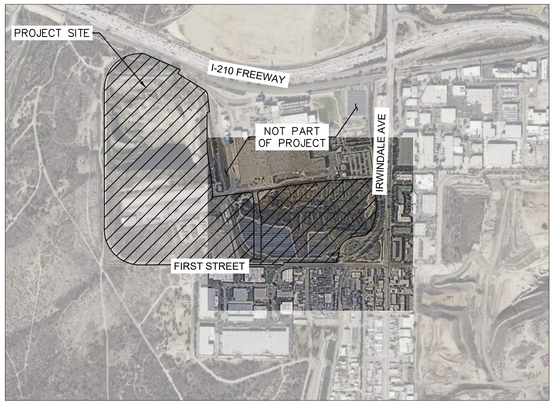
OWNER/DEVELOPER
ADAM SHER
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711 BROADWAY, 6TH FLOOR
SAN ANTONIO, TX 78215
EMAIL: ASHER@PABST.COM

SURVEYOR
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CIVIL ENGINEER
TERRENCE GAINES, P.E.
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(714) 786-6119
TERRENCE.GAINES@KIMLEY-HORN.COM

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT OR SETBACK LINE
- LIMIT OF GRADING
- 530 PROPOSED CONTOURS
- 530 EXISTING CONTOURS
- 2:1 TOE TO SLOPE



VICINITY MAP
SCALE: 1"=1000'

NORTH

ABBREVIATIONS

AB	– AGGREGATE BASE
AC	– ASPHALT
AHJ	– AUTHORITY HAVING JURISDICTION
BC	– BACK OF CURB
BS	– BOTTOM OF STAIR
BLDG	– BUILDING
BW	– BACK OF WALK
CB	– CATCH BASIN
CL	– CENTERLINE
CONC.	– CONCRETE
DI	– DRAIN INLET
DW	– DOMESTIC WATER
E	– EAST
EG	– EDGE OF GUTTER
ELEC	– ELECTRIC
EP	– EDGE OF PAVEMENT
FF	– FINISHED FLOOR
FG	– FINISHED GRADE
FL	– FLOW LINE
FS	– FINISHED SURFACE
FW	– FIRE WATER
G	– GAS
GB	– GRADE BREAK
HP	– HIGH POINT
INV	– INVERT
IRR	– IRRIGATION WATER
JS	– JUNCTION STRUCTURE
LP	– LOW POINT
MH	– MANHOLE
N	– NORTH
P/L	– PROPERTY LINE
PVC	– POLYVINYL CHLORIDE
RW	– RECLAIMED WATER
R/W	– RIGHT-OF-WAY
S	– SEWER OR SOUTH
SD	– STORM DRAIN
STA	– STATION
SS	– SANITARY SEWER
SPPWC	– STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION
SW	– SIDE WALK
T	– TELEPHONE
TC	– TOP OF CURB
TS	– TOP OF STAIR
W	– WATER OR WEST
XXX.XX	– PROPOSED ELEVATION
(XXX.XX)	– EXISTING ELEVATION

BASIS OF BEARINGS NOTE

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CENTERLINE OF IRWINDALE AVENUE, WHICH BEARS NORTH 01°12'15" EAST, PER GPS COORDINATE OBSERVATIONS, CALIFORNIA COORDINATE SYSTEM, ZONE 5 NAD 83 (EPOCH 2017.50).

ESTIMATED EARTHWORK QUANTITIES

CUT:	2,440,00 CY
FILL:	2,030,000 CY
SHRINKAGE (8%)	160,000 CY
TOTAL FILL:	2,190,600 CY
NET:	250,000 CY (CUT)

NOTE: THE ABOVE QUANTITIES ARE APPROXIMATE IN PLACE VOLUMES CALCULATED FROM THE EXISTING GROUND TO THE PROPOSED FINISHED GRADE. EXISTING GROUND IS DEFINED BY THE CONTOURS AND SPOT GRADES ON THE BASE SURVEY. PROPOSED FINISHED GRADE IS DEFINED AS THE FINAL GRADE AS INDICATED ON THE GRADING PLAN(S).

THE EARTHWORK QUANTITIES ABOVE ARE FOR PERMIT PURPOSES ONLY. THEY HAVE NOT BEEN FACTORED TO ACCOUNT FOR CHANGES IN VOLUME DUE TO BULKING, CLEARING AND GRUBBING, SHRINKAGE, OVER-EXCAVATION AND RE-COMPACTION, AND CONSTRUCTION METHODS. NOR DO THEY ACCOUNT FOR THE THICKNESS OF PAVEMENT SECTIONS, FOOTINGS, SLABS, REUSE OF PULVERIZED MATERIALS THAT WILL UNDERLIE NEW PAVEMENTS, ETC. THE CONTRACTOR SHALL RELY ON THEIR OWN EARTHWORK ESTIMATES FOR BIDDING PURPOSES.

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	OVERALL ROUGH GRADE
3	ROUGH GRADING
4	ROUGH GRADING
5	ROUGH GRADING

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

DIGALERT
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TOLL FREE 1-800-227-2600
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

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HD — CHECKED BY
TG — RECOMMENDED

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EXP. DATE: 12/31/2024

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SUITE 700, ORANGE, CA 92868
(714) 939-1030

PREPARED UNDER THE DIRECT SUPERVISION OF:
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PROJECT ID: 194466001

CITY OF IRWINDALE, CA

COVER SHEET

SHEET 1 OF SHEETS 5

CITY PROJECT NO.

Drawing name: K:\ORA_LDEV\194466001 - Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase\PHASE 1\COVER SHEET.dwg COVER SHEET Feb 13, 2024 1:46pm by: hans.divsalar
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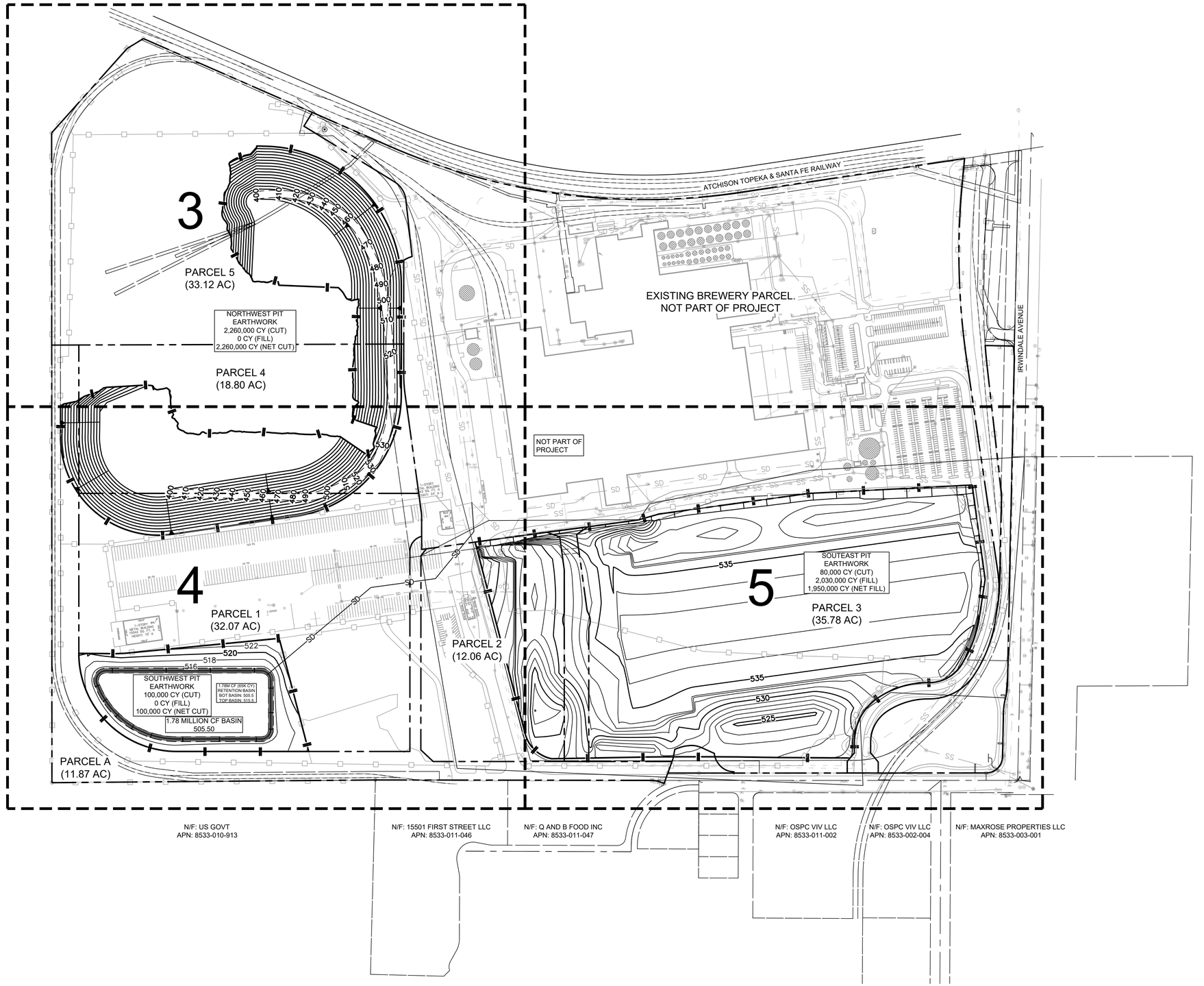
Drawing name: K:\ORA_LIDEV\194466001 - Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase\PHASE 1\ROUGH GRADE.dwg RG 2 Feb 13, 2024 1:47pm by: hons.divsolar
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LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT OR SETBACK LINE
- LIMIT OF GRADING
- 530 PROPOSED CONTOURS
- 530 EXISTING CONTOURS
- 1:1 TOE TO SLOPE

GENERAL NOTES

1. MAX 1:1 SLOPE ASSUMED



NORTH

GRAPHIC SCALE IN FEET
0 100 200 400
1" = 200'

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PROJECT ID: 194466001

CITY OF IRWINDALE, CA

OVERALL ROUGH GRADE

SHEET 2 OF SHEETS 5
CITY PROJECT NO.

Drawing name: K:\ORA_LDEV\194466001 - Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase\PHASE 1\ROUGH GRADE.dwg RG3 Feb 13, 2024 1:47pm by: hans.divsalar
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KEY MAP
N.T.S.

I-210

ATCHISON TOPEKA & SANTA FE RAILWAY

(550.00EG)
EXISTING RAILROAD CULVERT TO REMAIN
(545.00EG)
(552.00EG)
9.5' EX. ELECTRIC EASEMENT
OFFSITE RUNOFF
2.5%
4.3%
4:1
EXISTING SWALE TO REMAIN AND CONVEY OFFSITE DRAINAGE
6.0' EX. ELECTRIC EASEMENT
(544.00EG)
1.8%
EXISTING BERM TO REMAIN
EXISTING FENCE TO REMAIN
(553.00EG)
APPROXIMATE LOCATION OF EX. WATER WELL TO REMAIN.
(554.00EG)
5.6%
35.0' EX. RAILROAD EASEMENT
(539.00EG)
2.1%
EXISTING FLOW LINE
PARCEL 5
(33.12 AC)
EX. 12.0' ELECTRICAL EASEMENT TO BE QUITCLAIMED
1.9%
2.0%
2.1%
1:1
EXISTING FENCE TO REMAIN
LIMITS OF WORK
PROPOSED PL
10'
30' ACCESS ROAD
(534.00EG)
2.0%

NORTHWEST PIT
EARTHWORK
2,260,000 CY (CUT)
0 CY (FILL)
2,260,000 CY (NET CUT)

MATCHLINE SHEET 4

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT OR SETBACK LINE
- LIMIT OF GRADING
- 530 PROPOSED CONTOURS
- 530 EXISTING CONTOURS
- 1:1 TOE TO SLOPE

GENERAL NOTES

1. MAX 1:1 SLOPE ASSUMED

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160
1" = 80'

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PROJECT ID: 194466001

CITY OF IRWINDALE, CA

ROUGH GRADING

SHEET 3 OF SHEETS 5
CITY PROJECT NO.

MATCHLINE SHEET 3

PARCEL 4
(18.80 AC)

PARCEL 1
(32.07 AC)

PARCEL 2
(12.06 AC)

PARCEL A
(11.87 AC)

30' ACCESS ROAD

PROPOSED PL

LIMITS OF WORK

EXISTING STORM DRAIN

EXISTING TO REMAIN

1-STORY METAL BUILDING 3363 SQ. FT. ± HEIGHT: 24' ±

1-STORY BHL METAL BUILDING 15042 SQ. FT. ± HEIGHT: 15' ±

2 LOADING DOCKS

PROPOSED STORM DRAIN, REROUTE EXISTING FLOW DISCHARGE AND ROUTE TO PROPOSED BASIN

EXISTING TRUCK ENTRANCE TO REMAIN

PROPOSED BOUNDARY LIMITS OF WORK

PROPOSED STORM DRAIN OUTFALL

TEMPORARY RETENTION BASIN

SOUTHWEST PIT
EARTHWORK
100,000 CY (CUT)
0 CY (FILL)
100,000 CY (NET CUT)

1.78M CF (65K CY)
RETENTION BASIN
BOT BASIN: 505.5
TOP BASIN: 515.5

1.78 MILLION CF BASIN
505.50

35.0' EX. RAILROAD EASEMENT

(529.00EG)

(525.00EG)

(520.00EG)

(515.00EG)

(512.70EG)

(514.00EG)

(519.00EG)

EXISTING FLOW LINE

N01°34'W 1785.32'

S89°31'24"W 1320.24'

N15°09'38"W 894.87'

MATCHLINE SHEET 5

KEY MAP
N.T.S.

LEGEND

- PROPERTY LINE
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- CENTER LINE
- EASEMENT OR SETBACK LINE
- LIMIT OF GRADING
- 530 PROPOSED CONTOURS
- 530 EXISTING CONTOURS
- 1:1 TOE TO SLOPE

GENERAL NOTES

1. MAX 1:1 SLOPE ASSUMED

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160
1" = 80'

Drawing name: K:\ORA_LDEV\194466001 - Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase\PHASE 1\ROUGH GRADE.dwg RG 4 Feb 13, 2024 1:47pm by: hans.divsalar

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PROJECT ID: 194466001

CITY OF IRWINDALE, CA

ROUGH GRADING

SHEET 4 OF SHEETS 5
CITY PROJECT NO.

NOT PART OF PROJECT

MATCHLINE SHEET 4

PROPOSED BOUNDARY LIMITS OF WORK

N82°08'52"E 209.08'
N74°06'58"E 85.90'
N82°09'00"E 616.71'
N87°03'38"E 668.35'
N70°22'23"W 56.36'
N55°43'16"E 55.64'
N75°50'52"W 310.32'
N75°19'14"W 1,136.01'
N0°00'00"E 171.01'
N0°00'00"E 540.63'
N0°00'00"E 543.99'
N7°50'33"W 388.96'
N89°59'35"E 534.94'
N90°00'00"E 339.44'
N89°58'38"E 749.57'
N89°55'03"W 1129.27'
N8°46'13"E 157.60'
N0°00'00"E 44.77'
N40°06'58"E 45.14'
N0°00'00"E 47.29'

530.46 LP STILLING BASIN
530.40 LP STILLING BASIN
530.46'LP STILLING BASIN
526.50 LP STILLING BASIN
524.78 LP STILLING BASIN
522.95 LP STILLING BASIN
533.09 LP STILLING BASIN
536.33 LP

528.28 HP
527.73 LP
528.49 HP
536.92 HP
534.90 HP
535.42 HP
530.05 HP
530.08 HP
533.74 HP

532.83 FG

L=221.7'
R=366.50'
L=83.5'
R=53.50'

SOUTEAST PIT
EARTHWORK
80,000 CY (CUT)
2,030,000 CY (FILL)
1,950,000 CY (NET FILL)

PARCEL 3
(35.78 AC)

R/W DEDICATION
19,646 SF
(0.45 AC)

EXISTING FENCE TO BE REMOVED
PROTECT-IN-PLACE SEWER
EXISTING ACCESS AISLE TO REMAIN

5.0' ANCHORAGE EASEMENT
40.0' RAILROAD EASEMENT
4.0' PUBLIC UTILITY EASEMENT

(550.00EG)
(545.00EG)
(539.00EG)
(536.00EG)
(533.00EG)
(531.50EG)
(531.00EG)
(525.20EG)
(525.00EG)

IRWINDALE AVENUE
W 1ST STREET

KEY MAP
N.T.S.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT OR SETBACK LINE
- LIMIT OF GRADING
- 530 PROPOSED CONTOURS
- 530 EXISTING CONTOURS
- 1:1 TOE TO SLOPE

GENERAL NOTES

1. MAX 1:1 SLOPE ASSUMED

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160
1" = 80'

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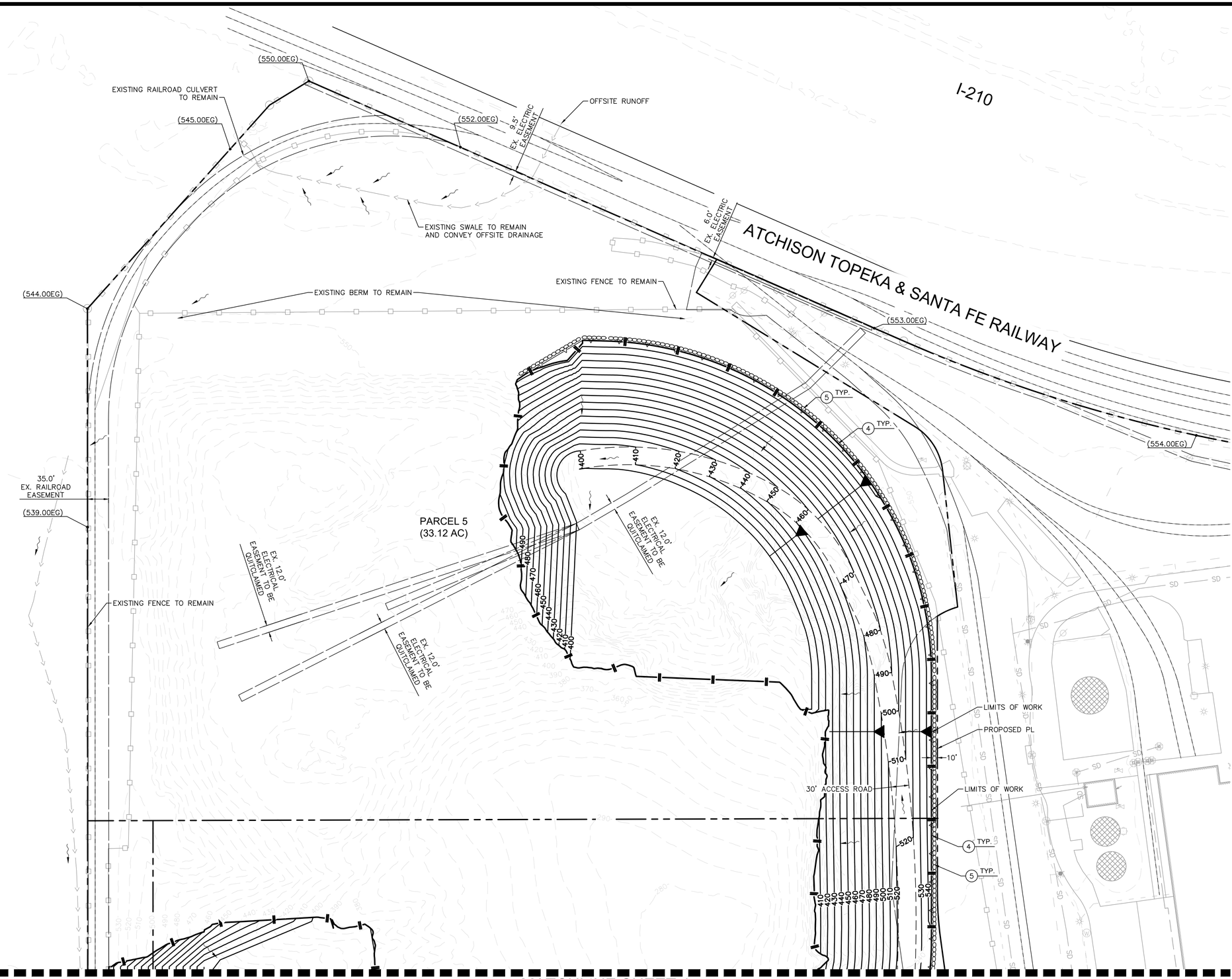
PROJECT ID: 194466001

CITY OF IRWINDALE, CA

ROUGH GRADING

SHEET 5
OF
SHEETS 5
CITY PROJECT NO.

Drawing name: K:\ORA_LDEV\194466001 – Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase\PHASE 1\ROUGH GRADE.dwg RG 5 Feb 13, 2024 1:47pm by: hans.divsalar
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KEY MAP
N.T.S.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT OR SETBACK LINE
- LIMIT OF GRADING
- 530 PROPOSED CONTOURS
- 530 EXISTING CONTOURS
- 2:1 TOE TO SLOPE
- SILT FENCE
- GRAVEL BAG

EROSION CONTROL CONSTRUCTION NOTES

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT PER CASQA BMP TC-1. (SEE SHEET 9)
2. INSTALL FIBER ROLL PROTECTION PER CASQA BMP SE-5. (SEE SHEET 9)
3. INSTALL SCREENING FABRIC ON EXISTING FENCE.
4. INSTALL TEMPORARY SILT FENCE (OR APPROVED EQUAL) PER CASQA BMP SE-1. (SEE SHEET 9)
5. INSTALL GRAVEL BAG BERM PER CASQA BMP SE-6. (SEE SHEET 9)
6. SOLID WASTE MANAGEMENT AREA PER CASQA BMP WM-5.
7. MATERIAL DELIVERY AND STORAGE AREA PER CASQA BMP WM-1.
8. MATERIAL STOCKPILE LOCATION (IF REQUIRED) PER CASQA WM-3.
9. CONSTRUCT CONCRETE WASH AREA PER CASQA BMP-8.
10. NS-10, VEHICLE AND EQUIPMENT MAINTENANCE.
11. SE-10. STORM DRAIN GRATE INLET BARRIER, SEE SHEET 9.

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160
1" = 80'

MATCHLINE SHEET 4

Drawing name: K:\ORA_LDEV\194466001 - Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase\PHASE 1\EROSION CONTROL PLAN.dwg 6 EROSION CONTROL PLAN Feb 13, 2024 1:47pm by: hans.divsalar
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PROJECT ID: 194466001

CITY OF IRWINDALE, CA

EROSION CONTROL PLAN

SHEET 6 OF SHEETS 9
CITY PROJECT NO.

Drawing name: K:\ORA_LDEV\194466001 – Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase\PHASE 1\EROSION CONTROL PLAN.dwg 7 EROSION CONTROL PLAN Feb 13, 2024 1:48pm by: hans.divsalar
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MATCHLINE SHEET 3

MATCHLINE SHEET 5

PARCEL 4
(18.80 AC)

PARCEL 1
(32.07 AC)

PARCEL 2
(12.06 AC)

PARCEL A
(11.87 AC)

30' ACCESS ROAD

1-STORY METAL BUILDING 3763 SQ. FT. ± HEIGHT: 24' ±

1-STORY BHL METAL BUILDING 15042 SQ. FT. ± HEIGHT: 15' ±

2 LOADING DOCKS

OVERHANG

EXISTING STORM DRAIN

EXISTING TO REMAIN

EXISTING TRUCK ENTRANCE TO REMAIN

PROPOSED STORM DRAIN, REROUTE EXISTING FLOW DISCHARGE AND ROUTE TO PROPOSED BASIN

PROPOSED STORM DRAIN OUTFALL

505.50
TEMPORARY RETENTION BASIN

35.0' EX. RAILROAD EASEMENT

EXISTING FLOW LINE

(529.00EG)

(525.00EG)

(520.00EG)

(515.00EG)

(512.70EG)

(514.00EG)

(519.00EG)

(525.00EG)

N01°01'34"W 1785.32'

S89°31'24"W 1320.24'

N15°09'38"W 894.87'

N89°59'35"E 534.94'

295.3'

KEY MAP
N.T.S.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT OR SETBACK LINE
- LIMIT OF GRADING
- 530 PROPOSED CONTOURS
- 530 EXISTING CONTOURS
- 2:1 TOE TO SLOPE
- SILT FENCE
- GRAVEL BAG

EROSION CONTROL CONSTRUCTION NOTES

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT PER CASQA BMP TC-1. (SEE SHEET 9)
2. INSTALL FIBER ROLL PROTECTION PER CASQA BMP SE-5. (SEE SHEET 9)
3. INSTALL SCREENING FABRIC ON EXISTING FENCE.
4. INSTALL TEMPORARY SILT FENCE (OR APPROVED EQUAL) PER CASQA BMP SE-1. (SEE SHEET 9)
5. INSTALL GRAVEL BAG BERM PER CASQA BMP SE-6. (SEE SHEET 9)
6. SOLID WASTE MANAGEMENT AREA PER CASQA BMP WM-5.
7. MATERIAL DELIVERY AND STORAGE AREA PER CASQA BMP WM-1.
8. MATERIAL STOCKPILE LOCATION (IF REQUIRED) PER CASQA WM-3.
9. CONSTRUCT CONCRETE WASH AREA PER CASQA BMP-8.
10. NS-10, VEHICLE AND EQUIPMENT MAINTENANCE.
11. SE-10. STORM DRAIN GRATE INLET BARRIER, SEE SHEET 9.

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160
1" = 80'

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PROJECT ID: 194466001

CITY OF IRWINDALE, CA

EROSION CONTROL PLAN

SHEET 7 OF SHEETS 9

CITY PROJECT NO.

NOT PART OF PROJECT

MATCHLINE SHEET 4

PROPOSED BERM

PROPOSED BOUNDARY LIMITS OF WORK

N87°03'38"E 668.35'

N82°09'00"E 616.71'

N74°06'58"E 85.90'

N82°08'52"E 209.08'

N70°22'23"W 56.36'

N55°43'16"E 55.64'

N75°50'52"W 310.32'

N75°19'11"W 136.01'

N0°00'00"E 171.01'

N0°00'00"E 543.99'

N0°00'00"E 540.63'

N90°00'00"E 339.44'

N89°58'38"E 749.57'

N89°55'03"W 1129.27'

N75°50'33"W 388.96'

N8°46'13"E 157.60'

N0°00'00"E 44.77'

N40°06'58"E 45.14'

N0°00'00"E 47.29'

PARCEL 3
(35.78 AC)

THESE STORAGE LOCATIONS FOR REFERENCE ONLY. CONTRACTOR TO BE IN CHARGE OF FINAL LOCATIONS.

R/W DEDICATION
19,646 SF
(0.45 AC)

W 1ST STREET

IRWINDALE AVENUE

EXISTING ACCESS AISLE TO REMAIN

PROTECT-IN-PLACE SEWER

5.0' ANCHORAGE EASEMENT

40.0' RAILROAD EASEMENT

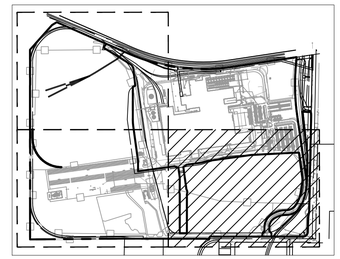
4.0' PUBLIC UTILITY EASEMENT

L=221.77'
R=366.50'

L=53.51'
R=53.50'

(550.00EG)
(545.00EG)
(539.00EG)
(536.00EG)
(533.00EG)
(531.50EG)
(531.00EG)
(525.20EG)
(525.00EG)

TYP.



KEY MAP
N.T.S.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT OR SETBACK LINE
- LIMIT OF GRADING
- 530 PROPOSED CONTOURS
- 530 EXISTING CONTOURS
- 2:1 TOE TO SLOPE
- SILT FENCE
- GRAVEL BAG

EROSION CONTROL CONSTRUCTION NOTES

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT PER CASQA BMP TC-1. (SEE SHEET 9)
2. INSTALL FIBER ROLL PROTECTION PER CASQA BMP SE-5. (SEE SHEET 9)
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9. CONSTRUCT CONCRETE WASH AREA PER CASQA BMP-8.
10. NS-10, VEHICLE AND EQUIPMENT MAINTENANCE.
11. SE-10. STORM DRAIN GRATE INLET BARRIER, SEE SHEET 9.

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160
1" = 80'

Drawing name: K:\ORA_LDEV\194466001 - Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase1\PHASE 1\EROSION CONTROL PLAN.dwg 8 EROSION CONTROL PLAN Feb 13, 2024 1:48pm by: hans.divsalar

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HD — CHECKED BY
TG — RECOMMENDED

LICENSED PROFESSIONAL
TERRENCE GAINES
CA LICENSE NUMBER 89265
EXP. DATE: 12/31/2024

Kimley»Horn
1100 TOWN AND COUNTRY RD
SUITE 700, ORANGE, CA 92868
(714) 939-1030

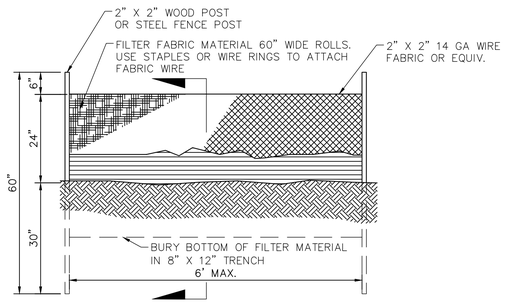
PREPARED UNDER THE DIRECT SUPERVISION OF:
DATE:
TERRENCE GAINES, R.C.E. NO. 89265 EXP. 12/31/24

PROJECT ID: 194466001

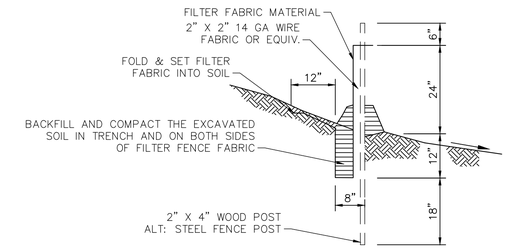
CITY OF IRWINDALE, CA

EROSION CONTROL PLAN

SHEET 8
OF SHEETS 9
CITY PROJECT NO.



FRONT ELEVATION



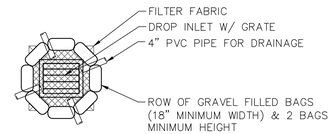
SECTION A–A

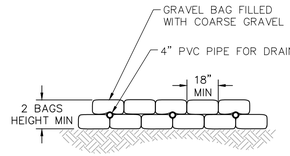
NOTES:

1. CONSTRUCT SILT FENCE ALONG A LEVEL CONTOUR.
2. WHEN STANDARD STRENGTH FILTER FABRIC IS USED A WIRE MESH SUPPORT FENCE SHALL BE FASTENED TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY– DUTY WIRE STAPLES AR LEAST 1" LONG TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 4".
3. STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE AND 40" OF THE FABRIC SHALL EXTEND INTO THE TRENCH. WHEN EXTRA–STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED AND THE FILTER FABRIC STAPLED OR WIRED DIRECTLY TO THE POSTS.
4. FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL THEN CUT TO THE LENGTH OF THE BARRIER. WHEN JOINTS ARE NECESSARY FILTER CLOTH SHALL BE SPICED TOGETHER ONLY TO A SUPPORT POST WITH A MINIMUM 6" OVERLAP AND BOTH AND SECURELY FASTENED TO THE POST.
5. THE TRENCH SHALL BE BACKFILLED WITH IMPACTED NATIVE MATERIAL.
6. IF 85% OR MORE OF A SOIL BY WEIGHT PASSES THROUGH THE OPENINGS IN A NO. 200 SIEVE (U.S. STANDARD) FILTER FABRIC SHALL NOT BE USED.
7. FILTER FABRIC MATERIAL SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 DEGREES FAHRENHEIT TO 120 DEGREES FAHRENHEIT.
8. SILT FENCES SHALL REMAIN IN PLACE UNTIL THE SLOPED AREA IS PERMANENTLY STABILIZED.
9. LEAVE AN UNDISTURBED OR STABILIZED AREA IMMEDIATELY DOWNSLOPE FROM THE FENCE.

SILT FENCE

N.T.S. REV. DATE: 08.28.2015





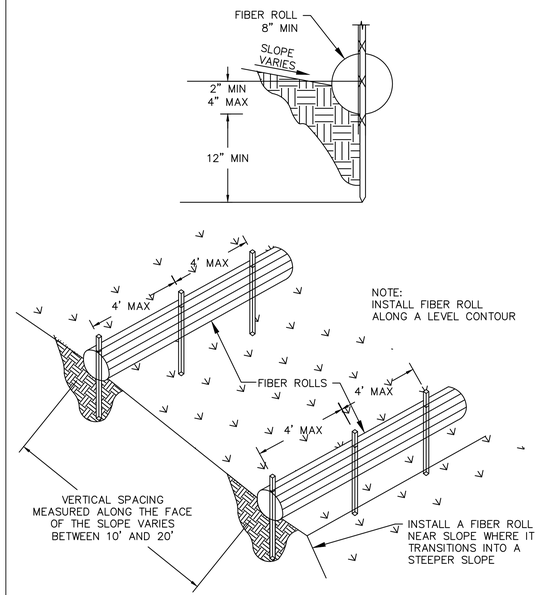
SECTION

NOTES:

1. GRAVEL BAG MATERIAL: POLYPROPYLENE, POLYETHYLENE OR POLYMIDE WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OUNCES PER SQUARE YARD, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%
2. GRAVEL BAG SHALL BE FILLED WITH 3/4" ROCK OR 1/4" PEA GRAVEL.
3. PLACE SEVERAL LAYERS OF SAND BAGS (12" MINIMUM HIGH) OVERLAPPING THE BAGS AND PACKING THEM TIGHTLY TOGETHER.
4. LEAVE GAP OF ONE BAG ON THE TOP ROW TO SERVE AS A SPILLWAY.
5. PLACE WIRE MESH OVER AND 1' (MINIMUM) BEYOND THE INLET STRUCTURE.
6. PLACE FILTER FABRIC OVER WIRE MESH. FILTER FABRIC SHALL BE MANUFACTURED FROM UV RESISTANT POLYPROPYLENE, NYLON, POLYESTER, OR ETHYLENE FABRIC WITH AN EQUIVALENT OPENING SIZE NOT GREATER THAN 20 SIEVE AND WITH A MINIMUM FLOW RATE OF 40 GALLONS/MINUTE/SQ. FT.
7. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT.

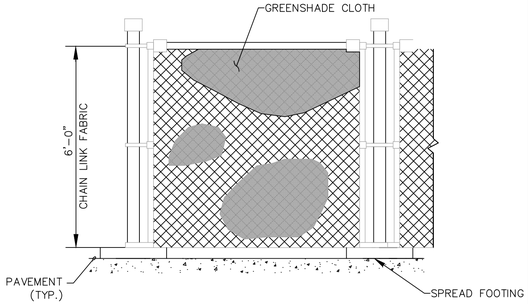
DROP INLET SEDIMENT BARRIER

N.T.S. REV. DATE: 08.28.2015



FIBER ROLL DETAIL

N.T.S. REV. DATE: 08.28.2015 3

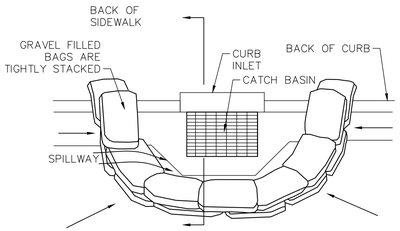


NOTES:

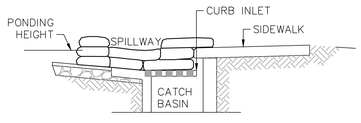
1. CONTRACTOR TO INSTALL TEMPORARY CONSTRUCTION FENCE IN ACCORDANCE WITH CALIFORNIA BUILDING CODE AND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS.
2. CONTRACTOR SHALL MAINTAIN THE FENCING THROUGHOUT THE CONSTRUCTION PROCESS TO ENSURE ADEQUATE PERFORMANCE, TO PREVENT NUISANCE AND TO MAINTAIN PUBLIC HEALTH, SAFETY AND WELFARE.
3. CONTRACTOR SHALL CONTACT CITY PRIOR TO INSTALLING THE TEMPORARY FENCE AND OBTAIN ALL APPLICABLE CLEARANCES/APPROVALS.

TEMPORARY CONSTRUCTION FENCE WITH SCREENING

N.T.S. REV. DATE: 08.28.2015



PLAN VIEW



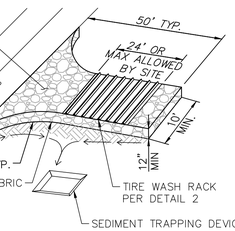
SECTION A–A

NOTES:

1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. GRAVEL BAG MATERIAL: POLYPROPYLENE, POLYETHYLENE OR POLYMIDE WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OUNCES PER SQUARE YARD, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.
3. GRAVEL BAG SHALL BE FILLED WITH 3/4" ROCK OR 1/4" PEA GRAVEL.
4. PLACE SEVERAL LAYERS OF SAND BAGS (12" MINIMUM HIGH) OVERLAPPING THE BAGS AND PACKING THEM TIGHTLY TOGETHER.
5. LEAVE GAP OF ONE BAG ON THE TOP ROW TO SERVE AS A SPILLWAY.
6. PLACE FILTER FABRIC OVER WIRE MESH. FILTER FABRIC SHALL BE MANUFACTURED FROM UV RESISTANT POLYPROPYLENE, NYLON, POLYESTER, OR ETHYLENE FABRIC WITH AN EQUIVALENT OPENING SIZE NOT GREATER THAN 20 SIEVE AND WITH A MINIMUM FLOW RATE OF 40 GALLONS/MINUTE/SQ. FT.
7. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB INLET SEDIMENT BARRIER

N.T.S. REV. DATE: 08.28.2015 7

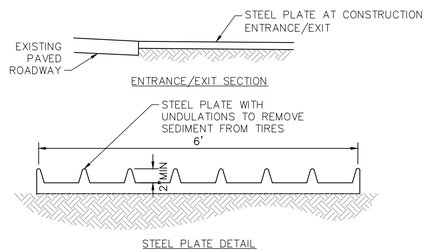


NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

STABILIZED CONSTRUCTION ENTRANCE

N.T.S. REV. DATE: 08.28.2015



ENTRANCE/EXIT SECTION

STEEL PLATE DETAIL

TIRE WASH RACK

N.T.S. REV. DATE: 08.28.2015

Drawing name: K:\ORA_LDEV\194466001 – Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase\PHASE 1\EROSION CONTROL PLAN.dwg 9 DETAILS Feb 13, 2024 1:48pm by: hans.divsalar
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ISSUE	DATE	DESCRIPTION

JB — DRAWN BY
HD — CHECKED BY
TG — RECOMMENDED

LICENSED PROFESSIONAL
TERRENCE GAINES
CA LICENSE NUMBER 89265
EXP. DATE: 12/31/2024

Kimley»Horn
1100 TOWN AND COUNTRY RD
SUITE 700, ORANGE, CA 92868
(714) 939-1030

PREPARED UNDER THE DIRECT SUPERVISION OF:
TERRENCE GAINES, R.C.E. NO. 89265 DATE: EXP. 12/31/24

PROJECT ID: 194466001

CITY OF IRWINDALE, CA

DETAILS

SHEET 9 OF SHEETS 9
CITY PROJECT NO.

ROUGH GRADING PLANS
PHASE 2
FOR
IRWINDALE BREW YARD

15801 W 1ST STREET
IRWINDALE, CA 91706

PROJECT TEAM

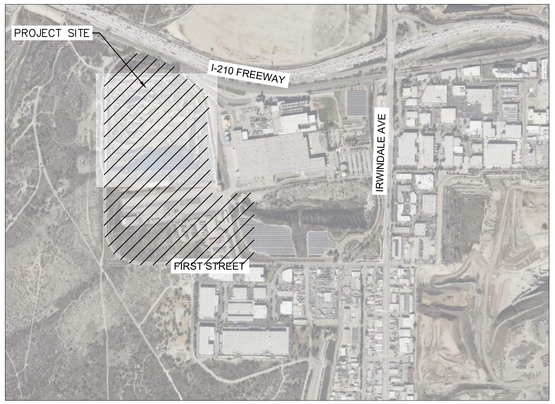
OWNER/DEVELOPER
ADAM SHER
IBY PROPERTY OWNER, LLC
711 BROADWAY, 6TH FLOOR
SAN ANTONIO, TX 78215
EMAIL: ASHER@PABST.COM

SURVEYOR
BUCKLEY D. BLEW
DMG, INC.
2618 SAN MIGUEL SR., STE 290
NEWPORT BEACH, CA 92660
(949) 825-7786

CIVIL ENGINEER
TERRENCE GAINES, P.E.
KIMLEY-HORN AND ASSOCIATES, INC.
1100 TOWN AND COUNTRY RD SUITE 700,
ORANGE, CA 92868
(714) 786-6119
TERRENCE.GAINES@KIMLEY-HORN.COM

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT OR SETBACK LINE
- LIMIT OF GRADING
- 530 PROPOSED CONTOURS
- 530 EXISTING CONTOURS
- 2:1 TOE TO SLOPE



VICINITY MAP
SCALE: 1"=1000'

NORTH

BASIS OF BEARINGS NOTE

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CENTERLINE OF IRWINDALE AVENUE, WHICH BEARS NORTH 01°12'15" EAST, PER GPS COORDINATE OBSERVATIONS, CALIFORNIA COORDINATE SYSTEM, ZONE 5 NAD 83 (EPOCH 2017.50).

ESTIMATED EARTHWORK QUANTITIES

CUT:	30,000 CY
FILL:	8,130,000 CY
SHRINKAGE (8%)	650,000 CY
TOTAL FILL:	8,780,000 CY
NET:	8,750,000 CY (FILL)

NOTE: THE ABOVE QUANTITIES ARE APPROXIMATE IN PLACE VOLUMES CALCULATED FROM THE EXISTING GROUND TO THE PROPOSED FINISHED GRADE. EXISTING GROUND IS DEFINED BY THE CONTOURS AND SPOT GRADES ON THE BASE SURVEY. PROPOSED FINISHED GRADE IS DEFINED AS THE FINAL GRADE AS INDICATED ON THE GRADING PLAN(S).

THE EARTHWORK QUANTITIES ABOVE ARE FOR PERMIT PURPOSES ONLY. THEY HAVE NOT BEEN FACTORED TO ACCOUNT FOR CHANGES IN VOLUME DUE TO BULKING, CLEARING AND GRUBBING, SHRINKAGE, OVER-EXCAVATION AND RE-COMPACTION, AND CONSTRUCTION METHODS. NOR DO THEY ACCOUNT FOR THE THICKNESS OF PAVEMENT SECTIONS, FOOTINGS, SLABS, REUSE OF PULVERIZED MATERIALS THAT WILL UNDERLIE NEW PAVEMENTS, ETC. THE CONTRACTOR SHALL RELY ON THEIR OWN EARTHWORK ESTIMATES FOR BIDDING PURPOSES.

ABBREVIATIONS

AB	– AGGREGATE BASE
AC	– ASPHALT
AHJ	– AUTHORITY HAVING JURISDICTION
BC	– BACK OF CURB
BS	– BOTTOM OF STAIR
BLDG	– BUILDING
BW	– BACK OF WALK
CB	– CATCH BASIN
CL	– CENTERLINE
CONC.	– CONCRETE
DI	– DRAIN INLET
DW	– DOMESTIC WATER
E	– EAST
EG	– EDGE OF GUTTER
ELEC	– ELECTRIC
EP	– EDGE OF PAVEMENT
FF	– FINISHED FLOOR
FG	– FINISHED GRADE
FL	– FLOW LINE
FS	– FINISHED SURFACE
FW	– FIRE WATER
G	– GAS
GB	– GRADE BREAK
HP	– HIGH POINT
INV	– INVERT
IRR	– IRRIGATION WATER
JS	– JUNCTION STRUCTURE
LP	– LOW POINT
MH	– MANHOLE
N	– NORTH
P/L	– PROPERTY LINE
PVC	– POLYVINYL CHLORIDE
RW	– RECLAIMED WATER
R/W	– RIGHT-OF-WAY
S	– SEWER OR SOUTH
SD	– STORM DRAIN
STA	– STATION
SS	– SANITARY SEWER
SPPWC	– STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION
SW	– SIDE WALK
T	– TELEPHONE
TC	– TOP OF CURB
TS	– TOP OF STAIR
W	– WATER OR WEST
XXX.XX	– PROPOSED ELEVATION
(XXX.XX)	– EXISTING ELEVATION

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	NOTES
3	OVERALL ROUGH GRADE
4	ROUGH GRADE
5	ROUGH GRADE

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

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RECOMMENDED: TG

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PREPARED UNDER THE DIRECT SUPERVISION OF:
TERRENCE GAINES, R.C.E. NO. 89265 DATE: EXP. 12/31/24

PROJECT ID: 194466001

CITY OF IRWINDALE, CA

COVER SHEET

SHEET 1 OF SHEETS 5

CITY PROJECT NO.

Drawing name: K:\ORA_LIDEV\194466001 - Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase\PHASE 2\COVER SHEET.dwg COVER SHEET Feb 09, 2024 11:40am by hans.divsalar
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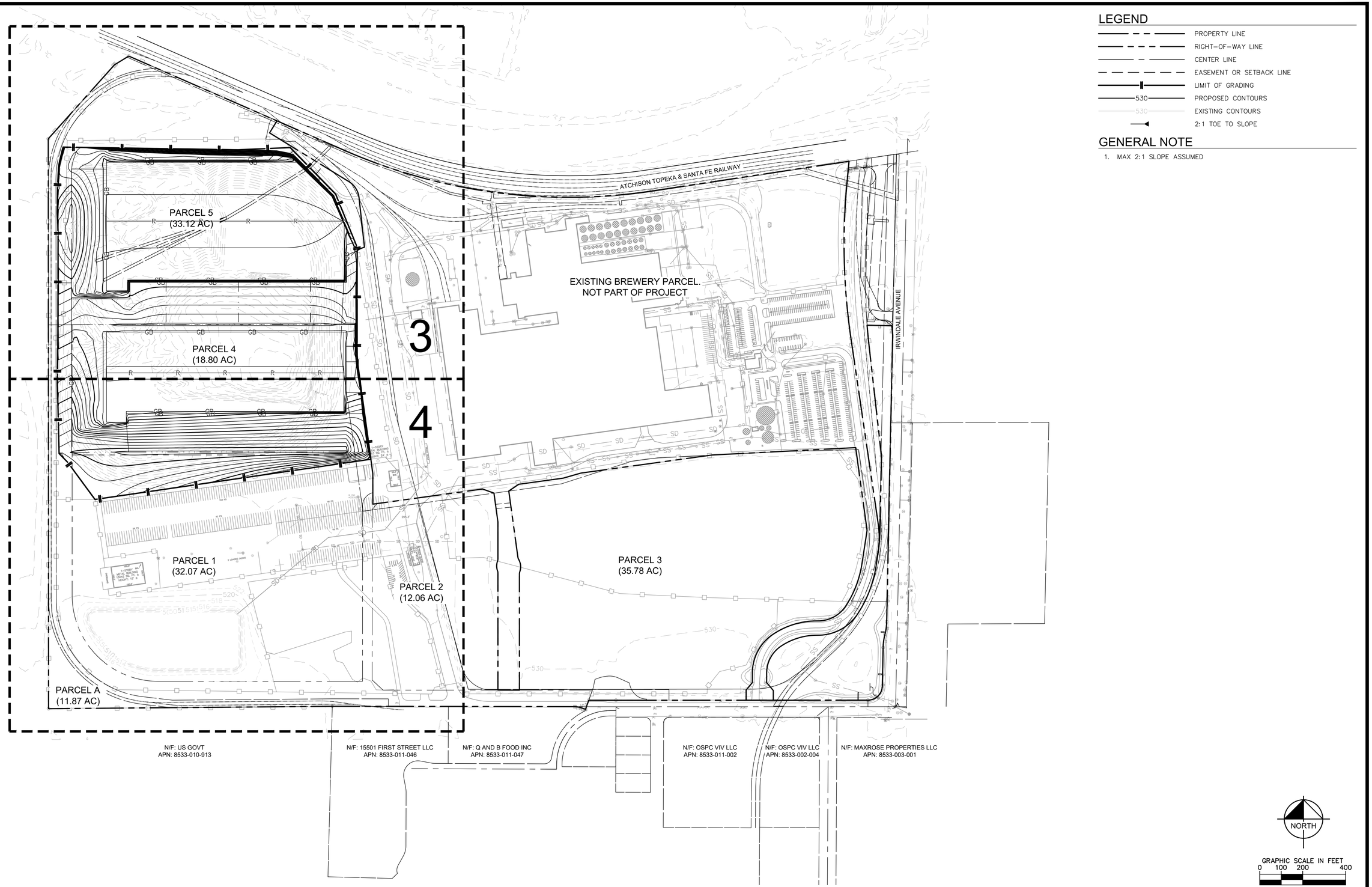
Drawing name: K:\ORA_LDFV\194466001 - Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase\PHASE 2\ROUGH GRADE.dwg RG Feb 09, 2024 11:41am by: hans.divalar
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LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT OR SETBACK LINE
- LIMIT OF GRADING
- 530 PROPOSED CONTOURS
- 530 EXISTING CONTOURS
- 2:1 TOE TO SLOPE

GENERAL NOTE

1. MAX 2:1 SLOPE ASSUMED



NORTH

GRAPHIC SCALE IN FEET
0 100 200 400
1" = 200'

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ISSUE	DATE	DESCRIPTION

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PROJECT ID: 194466001

CITY OF IRWINDALE, CA

OVERALL ROUGH GRADE

SHEET 2 OF SHEETS 7
CITY PROJECT NO.

Drawing name: K:\ORA_LDEV\194466001 – Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase\PHASE 2\ROUGH GRADE.dwg RG 1 Feb 09, 2024 11:41am by: hans.divsalar
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(550.00EG)
EXISTING RAILROAD CULVERT TO REMAIN
(545.00EG)
(552.00EG)
9.5' EX. ELECTRIC EASEMENT
OFFSITE RUNOFF
I-210
2.9%
4.3%
4:1
EXISTING HEADWALL
EXISTING SWALE TO REMAIN AND CONVEY OFFSITE DRAINAGE
EXISTING CULVERT
6.0' EX. ELECTRIC EASEMENT
ATCHISON TOPEKA & SANTA FE RAILWAY
(544.00EG)
1.6%
540.53 LP STILLING BASIN
543.75 FG
541.00 LP STILLING BASIN
(553.00EG)
544.82 FG
APPROXIMATE LOCATION OF EX. WATER WELL TO REMAIN.
541
545.01 FG
543.24 FG
545
544
543
542
540
539
538
537
536
535
4.5%
EX. 12.0' ELECTRICAL EASEMENT TO BE QUITCLAIMED
(554.00EG)
0.5%
PARCEL 5
(33.12 AC)
35.0' EX. RAILROAD EASEMENT
(539.00EG)
536.61 LP STILLING BASIN
2.1%
EXISTING FLOW LINE
EXISTING RAILROAD TO REMAIN
EXISTING FENCE TO BE REMOVED
4.4%
EXISTING RAILROAD
EXISTING RAILROAD TO REMAIN
EXISTING FENCE TO REMAIN
545.25 FG
540.50 FG
541.52 FG
540.50 FG
539.73 FG
EXISTING LOT LINES
LIMIT OF WORK
(534.00EG)
535.90 LP STILLING BASIN
535.83 LP STILLING BASIN
537.25 FG
535.79 LP
536.74 HP
535.71 LP

MATCHLINE SHEET 4



KEY MAP
N.T.S.

LEGEND

- PROPERTY LINE
- RIGHT–OF–WAY LINE
- CENTER LINE
- EASEMENT OR SETBACK LINE
- LIMIT OF GRADING
- 530 PROPOSED CONTOURS
- 530 EXISTING CONTOURS
- 2:1 TOE TO SLOPE

GENERAL NOTE

1. MAX 2:1 SLOPE ASSUMED

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160
1" = 80'

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ISSUE	DATE	DESCRIPTION

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DATE:
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PROJECT ID: 194466001

CITY OF IRWINDALE, CA

ROUGH GRADE

SHEET 3
OF
SHEETS 7
CITY PROJECT NO.

MATCHLINE SHEET 3

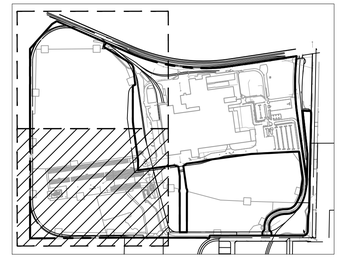
PARCEL 4
(18.80 AC)

PARCEL 1
(32.07 AC)

PARCEL 2
(12.06 AC)

PARCEL A
(11.87 AC)

536.72 HP
533.25 FG
537.25 FG
537.25 FG
524.95 FG
523.68 LP
STILLING BASIN
523.68 LP
STILLING BASIN
(529.00EG)
(525.00EG)
(520.00EG)
(515.00EG)
(512.70EG)
(514.00EG)
(519.00EG)
(525.00EG)
7.4%
6.4%
6.8%
2.6%
1.4%
1.7%
EXISTING FLOW LINE
PROPOSED BOUNDARY LIMITS OF WORK
PROPOSED STORM DRAIN, REROUTE EXISTING FLOW DISCHARGE AND ROUTE TO PROPOSED BASIN
PROPOSED LOT LINE
EXISTING TRUCK ENTRANCE TO REMAIN
PROPOSED STORM DRAIN OUTFALL
EXISTING TEMPORARY RETENTION BASIN
EXISTING TO REMAIN
EXISTING STORM DRAIN
1-STORY BHL METAL BUILDING 15042 SQ. FT. ± HEIGHT: 15' ±
1-STORY METAL BUILDING 63 SQ. FT. ± HEIGHT: 24' ±
2 LOADING DOCKS
TRUCK SCALE
N0°01'34"W 1785.32'
S89°31'24"W 1320.24'
35.0' EX. RAILROAD EASEMENT
295.3'
103 PS
46 PS
42 PS
26 PS
48 PS
38 PS
5 PS
7 PS
OVERHANG



KEY MAP
N.T.S.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT OR SETBACK LINE
- LIMIT OF GRADING
- 530 PROPOSED CONTOURS
- 530 EXISTING CONTOURS
- 2:1 TOE TO SLOPE

GENERAL NOTE

1. MAX 2:1 SLOPE ASSUMED

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160
1" = 80'

Drawing name: K:\ORA_LDEV\194466001 - Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase\PHASE 2\ROUGH GRADE.dwg RG 2 Feb 09, 2024 11:41am byc hans.divsalar

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TERRENCE GAINES
CA LICENSE NUMBER 89265
EXP. DATE: 12/31/2024

Kimley»Horn
1100 TOWN AND COUNTRY RD
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(714) 939-1030

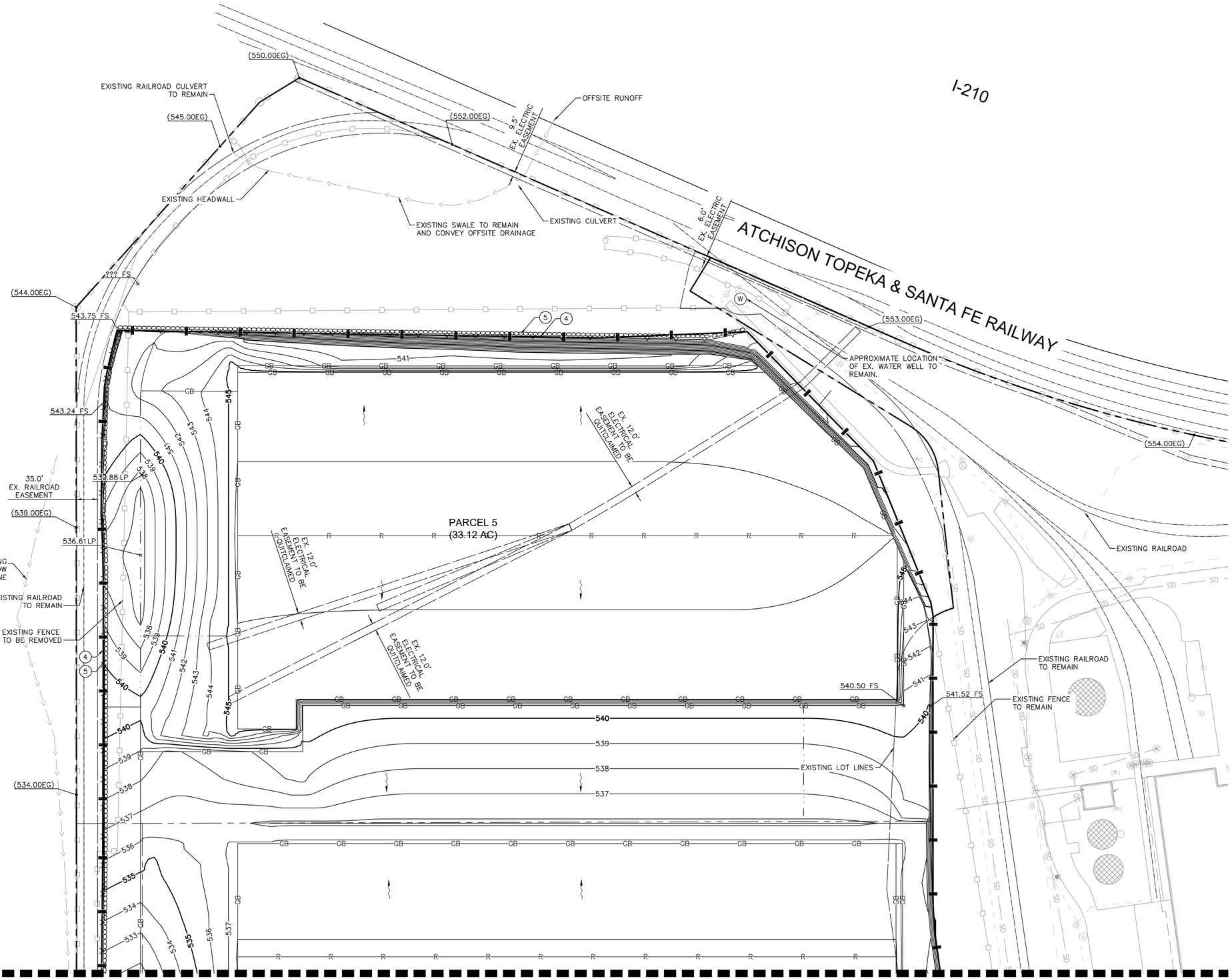
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PROJECT ID: 194466001

CITY OF IRWINDALE, CA

ROUGH GRADE

SHEET 4 OF SHEETS 7
CITY PROJECT NO.





KEY MAP
N.T.S.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTER LINE
- EASEMENT OR SETBACK LINE
- LIMIT OF GRADING
- 530 PROPOSED CONTOURS
- 530 EXISTING CONTOURS
- 2:1 TOE TO SLOPE
- SILT FENCE
- GRAVEL BAG

EROSION CONTROL CONSTRUCTION NOTES

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT PER CASQA BMP TC-1. (SEE SHEET 9)
2. INSTALL FIBER ROLL PROTECTION PER CASQA BMP SE-5. (SEE SHEET 9)
3. INSTALL SCREENING FABRIC ON EXISTING FENCE.
4. INSTALL TEMPORARY SILT FENCE (OR APPROVED EQUAL) PER CASQA BMP SE-1. (SEE SHEET 9)
5. INSTALL GRAVEL BAG BERM PER CASQA BMP SE-6. (SEE SHEET 9)
6. SOLID WASTE MANAGEMENT AREA PER CASQA BMP WM-5.
7. MATERIAL DELIVERY AND STORAGE AREA PER CASQA BMP WM-1.
8. MATERIAL STOCKPILE LOCATION (IF REQUIRED) PER CASQA WM-3.
9. CONSTRUCT CONCRETE WASH AREA PER CASQA BMP-8.
10. NS-10, VEHICLE AND EQUIPMENT MAINTENANCE.
11. SE-10. STORM DRAIN GRATE INLET BARRIER, SEE SHEET 9.

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160
1" = 80'

MATCHLINE SHEET 4

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CITY OF IRWINDALE, CA

EROSION CONTROL PLAN

SHEET 5
OF SHEETS 7
CITY PROJECT NO.

Drawing name: K:\ORA_LDEV\194466001 - Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase\PHASE 2\EROSION CONTROL PLAN.dwg 5 EROSION CONTROL PLAN Feb 09, 2024 11:41am by: hans.divsalar
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MATCHLINE SHEET 3

PARCEL 4
(18.80 AC)

PARCEL 1
(32.07 AC)

PARCEL 2
(12.06 AC)

PARCEL A
(11.87 AC)

1-STORY BHL METAL BUILDING 15042 SQ. FT. ± HEIGHT: 15' ±

1-STORY METAL BUILDING 3063 SQ. FT. ± HEIGHT: 24' ±

2 LOADING DOCKS

(529.00EG)

(525.00EG)

(520.00EG)

(515.00EG)

(512.70EG)

(514.00EG)

(519.00EG)

(525.00EG)

N0°01'34"W 1785.32'

S89°31'24"W 1320.24'

535

533.25 FS

523.68-LP

PROPOSED BOUNDARY LIMITS OF WORK

THESE STORAGE LOCATIONS FOR REFERENCE ONLY. CONTRACTOR TO BE IN CHARGE OF FINAL LOCATIONS.

EXISTING FLOW LINE

PROPOSED STORM DRAIN, REROUTE EXISTING FLOW DISCHARGE AND ROUTE TO PROPOSED BASIN

EXISTING STORM DRAIN

EXISTING TO REMAIN

PROPOSED LOT LINE

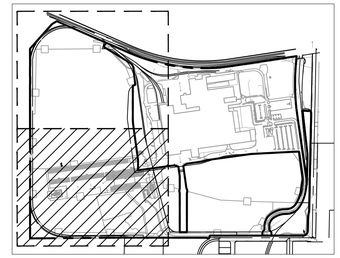
EXISTING TRUCK ENTRANCE TO REMAIN

PROPOSED STORM DRAIN OUTFALL

EXISTING TEMPORARY RETENTION BASIN

35.0' EX. RAILROAD EASEMENT

295.3'



KEY MAP
N.T.S.

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EROSION CONTROL CONSTRUCTION NOTES

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NORTH

GRAPHIC SCALE IN FEET
0 40 80 160
1" = 80'

Drawing name: K:\ORA_LDEV\194466001 - Irwindale Brew Yard\CADD\PlanSheets\Rough Grading Phase\PHASE 2\EROSION CONTROL PLAN.dwg 6 EROSION CONTROL PLAN Feb 09, 2024 11:41am by: hans.divsalar
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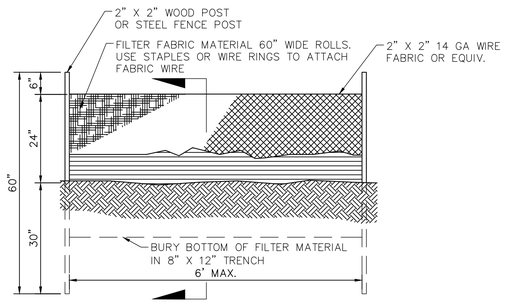
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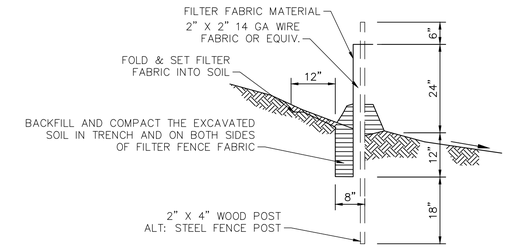
CITY OF IRWINDALE, CA

EROSION CONTROL PLAN

SHEET 6 OF SHEETS 7
CITY PROJECT NO.



FRONT ELEVATION



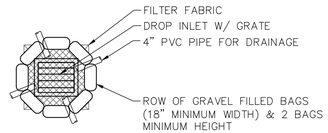
SECTION A–A

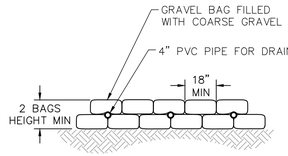
NOTES:

1. CONSTRUCT SILT FENCE ALONG A LEVEL CONTOUR.
2. WHEN STANDARD STRENGTH FILTER FABRIC IS USED A WIRE MESH SUPPORT FENCE SHALL BE FASTENED TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY– DUTY WIRE STAPLES AR LEAST 1" LONG TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 4".
3. STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE AND 40" OF THE FABRIC SHALL EXTEND INTO THE TRENCH. WHEN EXTRA–STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED AND THE FILTER FABRIC STAPLED OR WIRED DIRECTLY TO THE POSTS.
4. FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL THEN CUT TO THE LENGTH OF THE BARRIER. WHEN JOINTS ARE NECESSARY FILTER CLOTH SHALL BE SPICED TOGETHER ONLY TO A SUPPORT POST WITH A MINIMUM 6" OVERLAP AND BOTH AND SECURELY FASTENED TO THE POST.
5. THE TRENCH SHALL BE BACKFILLED WITH IMPACTED NATIVE MATERIAL.
6. IF 85% OR MORE OF A SOIL BY WEIGHT PASSES THROUGH THE OPENINGS IN A NO. 200 SIEVE (U.S. STANDARD) FILTER FABRIC SHALL NOT BE USED.
7. FILTER FABRIC MATERIAL SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 DEGREES FAHRENHEIT TO 120 DEGREES FAHRENHEIT.
8. SILT FENCES SHALL REMAIN IN PLACE UNTIL THE SLOPED AREA IS PERMANENTLY STABILIZED.
9. LEAVE AN UNDISTURBED OR STABILIZED AREA IMMEDIATELY DOWNSLOPE FROM THE FENCE.

SILT FENCE

N.T.S. REV. DATE: 08.28.2015





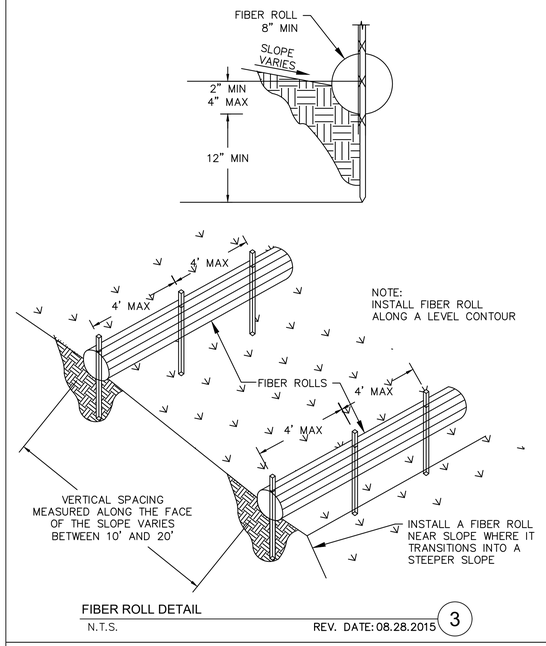
SECTION

NOTES:

1. GRAVEL BAG MATERIAL: POLYPROPYLENE, POLYETHYLENE OR POLYMIDE WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OUNCES PER SQUARE YARD, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%
2. GRAVEL BAG SHALL BE FILLED WITH 3/4" ROCK OR 1/4" PEA GRAVEL.
3. PLACE SEVERAL LAYERS OF SAND BAGS (12" MINIMUM HIGH) OVERLAPPING THE BAGS AND PACKING THEM TIGHTLY TOGETHER.
4. LEAVE GAP OF ONE BAG ON THE TOP ROW TO SERVE AS A SPILLWAY.
5. PLACE WIRE MESH OVER AND 1' (MINIMUM) BEYOND THE INLET STRUCTURE.
6. PLACE FILTER FABRIC OVER WIRE MESH. FILTER FABRIC SHALL BE MANUFACTURED FROM UV RESISTANT POLYPROPYLENE, NYLON, POLYESTER, OR ETHYLENE FABRIC WITH AN EQUIVALENT OPENING SIZE NOT GREATER THAN 20 SIEVE AND WITH A MINIMUM FLOW RATE OF 40 GALLONS/MINUTE/SQ. FT.
7. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT.

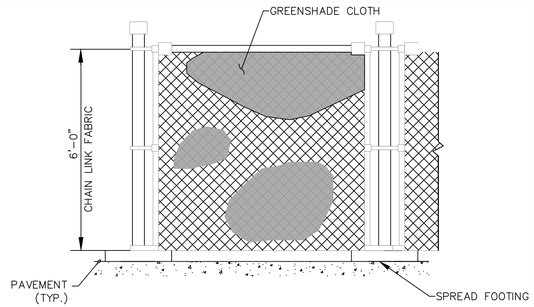
DROP INLET SEDIMENT BARRIER

N.T.S. REV. DATE: 08.28.2015



FIBER ROLL DETAIL

N.T.S. REV. DATE: 08.28.2015 3

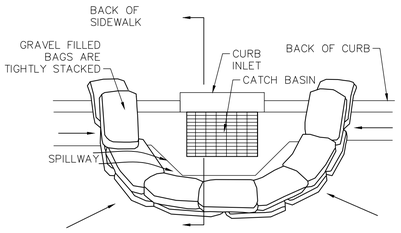


NOTES:

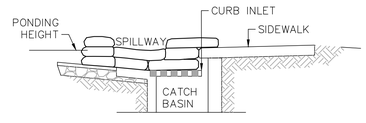
1. CONTRACTOR TO INSTALL TEMPORARY CONSTRUCTION FENCE IN ACCORDANCE WITH CALIFORNIA BUILDING CODE AND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS.
2. CONTRACTOR SHALL MAINTAIN THE FENCING THROUGHOUT THE CONSTRUCTION PROCESS TO ENSURE ADEQUATE PERFORMANCE, TO PREVENT NUISANCE AND TO MAINTAIN PUBLIC HEALTH, SAFETY AND WELFARE.
3. CONTRACTOR SHALL CONTACT CITY PRIOR TO INSTALLING THE TEMPORARY FENCE AND OBTAIN ALL APPLICABLE CLEARANCES/APPROVALS.

TEMPORARY CONSTRUCTION FENCE WITH SCREENING

N.T.S. REV. DATE: 08.28.2015



PLAN VIEW



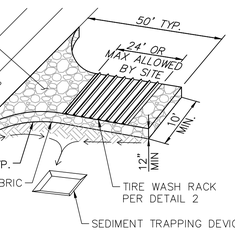
SECTION A–A

NOTES:

1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. GRAVEL BAG MATERIAL: POLYPROPYLENE, POLYETHYLENE OR POLYMIDE WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OUNCES PER SQUARE YARD, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.
3. GRAVEL BAG SHALL BE FILLED WITH 3/4" ROCK OR 1/4" PEA GRAVEL.
4. PLACE SEVERAL LAYERS OF SAND BAGS (12" MINIMUM HIGH) OVERLAPPING THE BAGS AND PACKING THEM TIGHTLY TOGETHER.
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6. PLACE FILTER FABRIC OVER WIRE MESH. FILTER FABRIC SHALL BE MANUFACTURED FROM UV RESISTANT POLYPROPYLENE, NYLON, POLYESTER, OR ETHYLENE FABRIC WITH AN EQUIVALENT OPENING SIZE NOT GREATER THAN 20 SIEVE AND WITH A MINIMUM FLOW RATE OF 40 GALLONS/MINUTE/SQ. FT.
7. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB INLET SEDIMENT BARRIER

N.T.S. REV. DATE: 08.28.2015 7

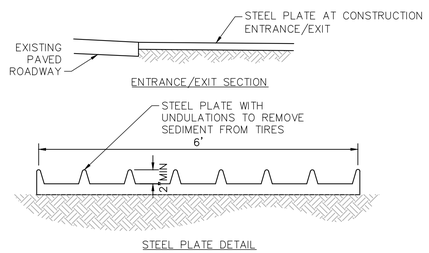


NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

STABILIZED CONSTRUCTION ENTRANCE

N.T.S. REV. DATE: 08.28.2015



ENTRANCE/EXIT SECTION

STEEL PLATE DETAIL

TIRE WASH RACK

N.T.S. REV. DATE: 08.28.2015

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PROJECT ID: 194466001

CITY OF IRWINDALE, CA

DETAILS

SHEET 7 OF SHEETS 7

CITY PROJECT NO.

APPENDIX B

RWQCB MRP XXXXX

WASTE DISCHARGE REQUIREMENTS
TO BE PROVIDED UPON APPLICATION APPROVAL

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD DRAFT APPLICATION AFFIXED FOR ENTITLEMENT PURPOSES

INTRODUCTION

This application package constitutes a Report of Waste Discharge (ROWD) pursuant to California Water Code Section 13260. Section 13260 states that persons discharging or proposing to discharge waste that could affect the quality of the waters of the State, other than into a community sewer system, shall file a ROWD containing information which may be required by the appropriate Regional Water Quality Control Board (RWQCB).

This package is to be used to start the application process for all waste discharge requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permits* issued by a RWQCB except:

1. Those landfill facilities that must use a joint Solid Waste Facility Permit Application Form, California Integrated Waste Management Board Form E-1-77; and

2. General WDRs or general NPDES permits that use a Notice of Intent to comply or specify the use of an alternative application form designed for that permit.

This application package contains:

1. Application/General Information Form for WDRs and NPDES Permits [Form 200 (10/97)].

2. Application/General Information Instructions.

Instructions

Instructions are provided to assist you with completion of the application. If you are unable to find the answers to your questions or need assistance with the completion of the application package, please contact your RWQCB representative. The RWQCBs strongly recommend that you make initial telephone or personal contact with RWQCB regulatory staff to discuss a proposed new discharge before submitting your application. The RWQCB representative will be able to answer procedural and annual fee related questions that you may have. (See map and telephone numbers inside of application cover.)

All dischargers regulated under WDRs and NPDES permits must pay an annual fee, except dairies, which pay a filing fee only. The RWQCB will notify you of your annual fee based on an evaluation of your proposed discharge. Please do NOT submit a check for your first annual fee or filing fee until requested to do so by a RWQCB representative. Dischargers applying for reissuance (renewal) of an existing NPDES permit or update of an existing WDR will be billed through the annual fee billing system and are therefore requested NOT to submit a check with their application. Checks should be made payable to the State Water Resources Control Board.

Additional Information Requirements

A RWQCB representative will notify you within 30 days of receipt of the application form and any supplemental documents whether your application is complete. If your application is incomplete, the RWQCB representative will send you a detailed list of discharge specific information necessary to complete the application process. The completion date of your application is normally the date when all required information, including the correct fee, is received by the RWQCB.

***NPDES PERMITS:** If you are applying for a permit to discharge to surface water, you will need an NPDES permit which is issued under both State and Federal law and may be required to complete one or more of the following Federal NPDES permit application forms: Short Form A, Standard Form A, Forms 1, 2B, 2C, 2D, 2E, and 2F. These forms may be obtained at a RWQCB office or can be ordered from the National Center for Environmental Publications and Information at (513) 891-6561

State of California
Regional Water Quality Control Board

APPLICATION/REPORT OF WASTE DISCHARGE
GENERAL INFORMATION FORM FOR
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

INSTRUCTIONS

Instructions for completing the application/report of waste discharge general information form for: waste discharge requirements/ NPDES permit.

If you have any questions on the completion of any part of the application, please contact your RWQCB representative. A map of RWQCB locations, addresses, and telephone numbers is located on the reverse side of the application cover.

I. FACILITY INFORMATION

You must provide the factual information listed below for ALL owners, operators, and locations and, where appropriate, for ALL general partners and lease holders.

A. ***FACILITY:*** Legal name, physical address including the county, person to contact, phone number, and email at the facility. (NO P.O. Box numbers. If no address exists, use street and nearest cross street).

B. ***FACILITY OWNER:*** Legal owner, address, person to contact, phone number, and email. Also include the owner's Federal Tax Identification Number.

Owner Type: Check the appropriate owner type. The legal owner will be named in the WDRs/NPDES permit.

C. ***FACILITY OPERATOR (The agency or business, not the person):*** If applicable, the name, address, person to contact, telephone number, and email for the facility operator. Check the appropriate Operator Type. If identical to B. above, enter "same as owner".

D. ***OWNER OF THE LAND:*** Legal owner of the land(s) where the facility is located, address, person to contact, and phone number. Check the appropriate Owner Type. If identical to B. above, enter "same as owner".

E. ***ADDRESS WHERE LEGAL NOTICE MAY BE SERVED:*** Address where legal notice may be served, person to contact, and phone number. If identical to B. above, enter "same as owner".

Address where annual fee invoices should be sent, person to contact, and phone number. If identical to B. above, enter "same as owner".

F. ***BILLING ADDRESS:*** Address where annual fee invoices should be sent, person to contact, and phone number. If identical to B. above, enter "same as owner".

II. TYPE OF DISCHARGE

Mark the appropriate box to describe whether the waste will be discharged to: Land or Surface Water.

Check the appropriate box(es) which best describe the activities at your facility.

Hazardous Waste: If you check the Hazardous Waste box, STOP and contact a representative of the RWQCB for further instructions.

Landfills: A separate form, APPLICATION FOR SOLID WASTE FACILITY PERMIT/WASTE DISCHARGE REQUIREMENTS, California Integrated Waste Management Board Form E-1-77, may be required. Contact a RWQCB representative to help determine the appropriate form for your discharge.

III. LOCATION OF THE FACILITY

- Enter the Assessor's Parcel Number(s) (APN), which is located on the property tax bill. The number can also be obtained from the County Assessor's Office. Indicate the APN for both the facility and the discharge point.

- Enter the Latitude of the entrance to the proposed/existing facility and of the discharge point. Latitude and longitude information can be obtained from a U.S. Geological Survey quadrangle topographic map. Other maps may also contain this information.

- Enter the Longitude of the entrance to the proposed/existing facility and of the discharge point.

IV. REASON FOR FILING

NEW DISCHARGE OR FACILITY: A discharge or facility that is proposed but does not now exist, or that does not yet have WDRs or an NPDES permit.

CHANGE IN DESIGN OR OPERATION: A material change in design or operation from existing discharge requirements. Final determination of whether the reported change is material will be made by the RWQCB.

CHANGE IN QUANTITY/TYPE OF DISCHARGE: A material change in characteristics of the waste from existing discharge requirements. Final determination of whether the reported change would have a significant effect will be made by the RWQCB.

CHANGE IN OWNERSHIP/ OPERATOR: Change of legal owner of the facility. Complete Parts I, III, and IV only and contact the RWQCB to determine if additional information is required.

WASTE DISCHARGE REQUIREMENTS UPDATE OR NPDES PERMIT REISSUANCE: WDRs must be updated periodically to reflect changing technology standards and conditions. A new application is required to reissue an NPDES permit which has expired.

OTHER: If there is a reason other than the ones listed, please describe the reason on the space provided. (If more space is needed, attach a separate sheet.)

V. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

It should be emphasized that communication with the appropriate RWQCB staff is vital before starting the CEQA documentation and is recommended before completing this application. There are Basin Plan issues which may complicate the CEQA effort, and RWQCB staff may be able to help in providing the needed information to complete the CEQA documentation.

Name the Lead Agency responsible for completion of CEQA requirements for the project, i.e., completion and certification of CEQA documentation.

Check YES or NO. Has a public agency determined that the proposed project is exempt from CEQA? If the answer is YES, state the basis for the exemption and the name of the agency supplying the exemption on the space provided. (Remember that, if extra space is needed, use an extra sheet of paper, but be sure to indicate the attached sheet under Section VII. Other.)

Check YES or NO. Has the “Notice of Determination” been filed under CEQA? If YES, give the date the notice was filed and enclose a copy of the Notice of Determination and the Initial Study, Environmental Impact Report, or Negative Declaration. If NO, check the box of the expected type of CEQA document for this project, and include the expected date of completion using the timelines given under CEQA. The date of completion should be taken as the date that the Notice of Determination will be submitted. (If not known, write “Unknown”)

VI. OTHER REQUIRED INFORMATION

To be approved, your application MUST include a COMPLETE characterization of the discharge. If the characterization is found to be incomplete, RWQCB staff will contact you and request that additional specific information be submitted.

This application MUST be accompanied by a site map. A USGS 7.5’ Quadrangle map or a street map, if more appropriate, is sufficient for most applications.

VII. OTHER

If any of the answers on your application form need further explanation, attach a separate sheet. Please list any attachments with the titles and dates on the space provided.

VIII. CERTIFICATION

Certification by the owner of the facility or the operator of the facility, if the operator is different from the owner, is required. The appropriate person must sign the application form.

Acceptable signatures are:

1. for a corporation, a principal executive officer of at least the level of senior vice-president;

2. for a partnership or individual (sole proprietorship), a general partner or the proprietor;

3. for a governmental or public agency, either a principal executive officer or ranking elected/appointed official.

Discharge Specific Information

In most cases, a request to supply additional discharge specific information will be sent to you by a representative of the RWQCB. If the RWQCB determines that additional discharge specific information is not needed to process your application, you will be so notified.

State of California
Regional Water Quality Control Board

APPLICATION/REPORT OF WASTE DISCHARGE
GENERAL INFORMATION FORM FOR
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

I. FACILITY INFORMATION

A. FACILITY:

Name IBY IDEFO

Address 15801 W First Street

City/County/State/Zip Code Irwindale, Los Angeles County, CA, 91706

Contact Person Philip Bruttig

Telephone Number (714) 334-7040 Email pbruttig@yellowironre.com

B. FACILITY OWNER:

Name IBY Property Owner, LLC

Address 711 Broadway, Floor 6

City/State/Zip Code San Antonio, Texas 78215

Contact Person Adam Sher

Telephone Number (213) 925-0990 Email asher@pabst.com

Federal Tax ID

Owner Type (*Mark one*):

☐ Individual ☐ Corporation ☐ Governmental Agency ☐ Partnership

☑ Other: LLC

C. FACILITY OPERATOR (The agency or business, not the person):

Name TBD

Address

City/State/Zip Code

Contact Person

Telephone Number Email

Operator Type (*Mark one*):

☐ Individual ☐ Corporation ☐ Governmental Agency ☐ Partnership

☐ Other:

D. OWNER OF THE LAND

Name IBY Property Owner, LLC

Address 711 Broadway, Floor 6

City/State/Zip Code San Antonio, Texas 78215

Contact Person Adam Sher

Telephone Number (213) 925-0990 Email asher@pabst.com

Owner Type (*Mark one*):

☐ Individual ☐ Corporation ☐ Governmental Agency ☐ Partnership

☑ Other: LLC

E. ADDRESS WHERE LEGAL NOTICE MAY BE SERVED

Address 711 Broadway, Floor 6

City/State/Zip Code San Antonio, Texas 78215

Contact Person Adam Sher

Telephone Number (213) 925-0990 Email asher@pabst.com

F. BILLING ADDRESS

Address 711 Broadway, Floor 6

City/State/Zip Code San Antonio, Texas 78215

Contact Person Adam Sher

Telephone Number (213) 925-0990 Email asher@pabst.com

II. TYPE OF DISCHARGE

Check Type of Discharge(s) Described in this Application:

☑ **Waste Discharge to Land** ☐ **Waste Discharge to Surface Water**

Check all that apply:

☐ Animal or Aquacultural Wastewater

☐ Animal Waste Solids

☐ Biosolids/Residual

☐ Cooling Water

☐ Domestic/ Municipal Wastewater Treatment and Disposal

☐ Dredge Material Disposal

☐ Hazardous Waste (*see instructions*)

☐ Industrial Process Wastewater

☐ Land Treatment Unit

☑ Landfill (*see instructions*)

☐ Mining

☐ Storm Water

☐ Surface Impoundment

☐ Waste Pile

☐ Wastewater Reclamation

☐ Other, *please describe* _____

III. LOCATION OF THE FACILITY

Describe the physical location of the facility:

1. Assessor's Parcel Number(s)
   - Facility: 8533-009-026, -028, -029
   - Discharge Point: 8533-009-028
2. Latitude
   - Facility: 34.12166° N
   - Discharge Point: 34.12497° N
3. Longitude
   - Facility: 117.93867° W
   - Discharge Point: 117.94439° N

IV. REASON FOR FILING

Check all that apply:

- ☑ New Discharge or Facility
- ☐ Change in Design or Operation
- ☐ Change in Quantity/Type of Discharge
- ☐ Changes in Ownership/Operator (see instructions)
- ☐ Waste Discharge Requirements Update or NPDES Permit Reissuance
- ☐ Other: _____

V. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Name of Lead Agency City of Irwindale

Has a public agency determined that the proposed project is exempt from CEQA?

☐ Yes ☑ No

If yes, state the basis for the exemption and the name of the agency supplying the exemption on the line below:

_____

_____

Has a "Notice of Determination" been filed under CEQA?

☐ Yes ☑ No

If Yes, enclose a copy of the CEQA document, Environmental Impact Report (EIR), or Negative Declaration. If No, identify the expected type of CEQA document and expected date of completion.

Expected CEQA Documents: ☑ EIR ☐ Negative Declaration

Expected CEQA Completion Date: April 2025

VI. OTHER REQUIRED INFORMATION

Please provide a COMPLETE characterization of your discharge. A complete characterization includes, but is not limited to, design and actual flows, a list of constituents and the discharge concentration of each constituent, a list of other appropriate waste discharge characteristics, a description and schematic drawing of all treatment processes, a description of any Best Management Practices (BMPs) used, and a description of disposal methods.

Also include a site map showing the location of the facility and, if you are submitting this application for an NPDES permit, identify the surface water to which you propose to discharge. Please try to limit your maps to a scale of 1:24,000 (7.5' USGS Quadrangle) or a street map, if more appropriate.

VII. OTHER

Attach additional sheets to explain any responses which need clarification. List attachments with titles and dates below:

_____

_____

_____

You will be notified by a representative of the RWQCB within 30 days of receipt of your application. The notice will state if your application is complete or if there is additional information you must submit to complete your Application/Report of Waste Discharge, pursuant to Division 7, Section 13260 of the California Water Code.

VIII. CERTIFICATION

"I certify under penalty of law that this document, including all attachments and supplemental information, were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Print Name _____ Title _____

Signature _____ Date _____

FOR OFFICE USE ONLY

Date Form 200 Received:	Letter to Discharger:	Fee Amount Received:	Check #:

California Environmental Protection Agency
Bill of Rights for Environmental Permit Applicants

California Environmental Protection Agency (Cal/EPA) recognizes that many complex issues must be addressed when pursuing reforms of environmental permits and that significant challenges remain. We have initiated reforms and intend to continue the effort to make environmental permitting more efficient, less costly, and to ensure that those seeking permits receive timely responses from the boards and departments of the Cal/EPA. To further this goal, Cal/EPA endorses the following precepts that form the basis of a permit applicant's "Bill of Rights."

1. Permit applicants have the right to assistance in understanding regulatory and permit requirements. All Cal/EPA programs maintain an Ombudsman to work directly with applicants. Permit Assistance Centers located throughout California have permit specialists from all the State, regional, and local agencies to identify permit requirements and assist in permit processing.
2. Permit applicants have the right to know the projected fees for review of applications, how any costs will be determined and billed, and procedures for resolving any disputes over fee billings.
3. Permit applicants have the right of access to complete and clearly written guidance documents that explain the regulatory requirements. Agencies must publish a list of all information required in a permit application and of criteria used to determine whether the submitted information is adequate.
4. Permit applicants have the right of timely completeness determinations for their applications. In general, agencies notify the applicant within 30 days of any deficiencies or determine that the application is complete. California Environmental Quality Act (CEQA) and public hearing requests may require additional information.
5. Permit applicants have the right to know exactly how their applications are deficient and what further information is needed to make their applications complete. Pursuant to California Government code Section 65944, after an application is accepted as complete, an agency may not request any new or additional information that was not specified in the original application.
6. Permit applicants have the right of a timely decision on their permit application. The agencies are required to establish time limits for permit reviews.
7. Permit applicants have the right to appeal permit review time limits by statute or administratively that have been violated without good cause. For state environmental agencies, appeals are made directly to the Cal/EPA Secretary or to a specific board. For local environmental agencies, appeals are generally made to the local governing board or, under certain circumstances, to Cal/EPA. Through this appeal, applicants may obtain a set date for a decision on their permit and, in some cases, a refund of all application fees (ask boards and departments for details).
8. Permit applicants have the right to work with a single lead agency where multiple environmental approvals are needed. For multiple permits, all agency actions can be consolidated under a lead agency. For site remediation, all applicable laws can be administered through a single agency.
9. Permit applicants have the right to know who will be reviewing their application and the time required to complete the full review process.

EXHIBIT 1

LOAD CHECKING PROGRAM AND WASTE ACCEPTANCE PLAN

Brew Yard Debris Engineered Fill Operation
15801 First St, Irwindale, CA 91706

IRWINDALE, CALIFORNIA (FILE NO. XXX, Order No. RXXX, Cl- XXXX, GEOTRACKER GLOBAL NO LXXXXX)

DRAFT Load Checking Program and Waste Acceptance Plan

The following is the Waste Acceptance Plan and Load Checking Program for the Brew Yard IDEFO located at 15801 First St, Irwindale, California 91706. The purpose of this program is to prevent disposal of hazardous and other unacceptable wastes at the facility in accordance with the requirements of the above referenced WDR.

A. Materials Accepted

1. Materials deposited at this site shall be inert materials only, such as, but not limited to:
    a) Earth, rock, gravel, and concrete
    b) Fully-cured asphalt paving (above the highest anticipated groundwater level)
    c) Glass
    d) Plaster products (excluding plasterboard)
    e) Brick
    f) Clay and clay products

2. Materials that will not be accepted include:
    a) No hazardous wastes, designated wastes, or liquid wastes shall be deposited at his disposal site.
    b) Non-hazardous solid wastes (decomposable organic refuse such as, but not necessarily limited to, ordinary household and commercial refuse, tin cans, metals, paper and paper products, plasterboard, cloth and clothing, wood and wood products, lawn clippings, sod, shrubbery, hair, hide, bones, dead animals, roofing paper, tar paper, unquenched ashes mixed, with refuse, market refuse, garbage, etc.) shall not be deposited at this site.
    c) No materials of a toxic nature such as insecticides, poisons, or radioactive materials, shall be deposited at this site.
    d) No asbestos or asbestos products shall be deposited at this site.
    e) Wastes deposited at this site shall be confined thereto and shall not be permitted to enter drainage ditches or watercourses.
    f) Erosion of deposited materials by surface flow shall be prevented.
    g) Neither the discharge nor any treatment of wastes shall cause pollution or nuisance.
    h) Non-inert materials.

3. Signs will be posted at the site entrance that state:

- INERT FILL ONLY
- NO HAZARDOUS OR REGULATED SUBSTANCES
- If you bring Hazardous or Regulated Substances on to this facility, you may be subject to civil or criminal penalties.

B. Tracking System – Ticketing

1. All incoming fill loads will be directed to the Inert Fill Field Office ticketing and inspection.

2. The hauler will be issued a disposal ticket by a trained inspector/clerk at the IDEFO Inspection Station. The inspector will obtain the following information from the hauler and enter this information into a computer system which will prepare the ticket:

    - Customer: The name, address, and phone number of the responsible party for the fill load.
    - Hauler: The name of phone number of the hauling firm, license plate of the vehicle.
    - Type of material.
    - Street address of where material was generated.

3. The inspector will also enter into the computer system:
    - Time and date.
    - General location where material will be placed.
    - Inspector Name: The name of the personnel accepting or rejecting (see Section C below) the fill load at the IDEFO Inspection station.

4. The computer system will then generate a ticket for the customer and internal records. Original copies of the completed and signed tickets will be archived at the site for five (5) years. The computer data will be maintained for five (5) years.

C. Load Inspection Routine

1. Inert Fill Field Office staff will inspect the load for unacceptable materials before the load is accepted for placement at the disposal area.

2. Loads will be inspected at the IDEFO Inspection station by trained personnel for unacceptable vapors, odors, liquids, stains, and suspicious objects that may contain hazardous, regulated, or other unacceptable materials.

3. Trained personnel at the IDEFO Inspection station will use a PID and/or FID (as appropriate) to further assess whether unacceptable materials may be contained in the fill load. If the vapor analyzer detects VOC's at 20 PPM or higher and there are no other issues with the load, then the

load, at the IDEFO's option, will be rejected or placed in an intermediate storage area until lab results are available.

4. If a load is rejected, it will not be unloaded, and the Inspector will enter the following information in a rejection log:

    - Customer: The name, address, and phone number of the responsible party for the load.
    - Hauler: The name of phone number of the hauling firm, license plate of the vehicle,
    - Reason for rejection.

Each load rejection will be recorded in a rejection log book, and a violator will receive written notification. A second violation may result in suspension of the offending company from disposing at the fill site.

5. If a load passes the IDEFO inspection, the inspector will direct the hauler to the unloading area which will be identified by signs.

6. The hauler will dump the load in a designated unloading area. The loader operator moving dumped material into place will also inspect the loads. If unacceptable waste is encountered, then:

    - If the unacceptable waste can be safely removed by the loader operator and the hauler who brought the unacceptable waste is still onsite, then that hauler will be asked to remove the unacceptable waste.

    - If the unacceptable waste can be safely removed by the operator, but the hauler who brought the waste is not onsite or cannot be identified, then the waste will be removed and placed in a cordoned off area until removed.

    - If the unacceptable waste cannot be safely removed by the operator, then the waste will be cordoned off with cones and a qualified contractor brought in to remove the waste. Each such incident will be recorded in a rejection log book (see Section C-4 above), and a violator if identified will receive written notification. A second violation will result in suspension of the offending company from disposing at the fill site.

D. Load Inspection - Random Checks

1. Two loads per day will be randomly inspected for further inspection.

2. The random inspection will consist of:
    - The hauler will dump the load in a designated inspection area.

    - An IDEFO operator will spread the load so that all material can be reviewed and inspected.

- If the load is rejected, the material will be placed back in the truck, the hauler will remove the material from the site, the inspector will enter the information into a rejection log (see Section C-4 above), and the hauler will receive written notification. A second violation will result in suspension of the offending company from disposing at the fill site.

E. Training

1. Employees will be trained on:
   - Procedures in the load checking program.
   - What are acceptable and unacceptable materials for the inert fill?
   - Procedures for finding unacceptable materials.
   - Use and calibration of PID monitor.

2. The load checking program will be posted so that all inert fill employees will have access to this program.

F. Large Sources

If a single source will generate more than 1,000 CY of material during a calendar year then the generator or hauler will provide the following data:

a) Data in Section B-2 above.
b) Current and prior land use history of site and adjacent properties.
c) Description of area providing fill including location and dimensions of any excavation.
d) Any environmental assessments.
e) Any laboratory data or other material analysis.
f) Any known or suspected environmental issues or conditions such as spills, staining, piping, waste disposal, above or below ground tanks, remedial actions, or any actions that have or potentially have the potential to release contaminants into the fill material.

If the above data indicates the material may be unacceptable, then the material will either not be accepted or analysis will be required to evaluate whether the material is acceptable under the provisions of the WDR and this load checking program. If the analysis determines the material is not acceptable, then it will not be allowed at the site.

EXHIBIT 2

DEPARTMENT OF RESOURCES AND RECOVERY (CalRecyle)
ENFORCEMENT AGENCY NOTIFICATION APPLICATION

ENFORCEMENT AGENCY NOTIFICATION APPLICATION
IS AFFIXED FOR ENTITLEMENT PURPOSES ONLY

State of California
CalRecycle 169 (Rev. 12/17)

Department of Resources Recycling and Recovery
(CalRecycle)

ENFORCEMENT AGENCY NOTIFICATION

Enforcement Agency:	Department of Public Health (19-AA)					Official Use Only	
35050 Commerce Dr, Baldwin Park, CA 91706						SWIS Number:	
County:	Los Angeles					Date Received:	
I. GENERAL INFORMATION							
Operation Name:	IBY IDEFO						
Address:	15801 W First Street	City:	Irwindale	State:	CA	Zip:	91706-6202
Phone:	(714) 334-7040	Fax:					
Operator Name:	TBD						
Address:		City:		State:		Zip:	
Phone:		Fax:					
Land Owner:	IBY Property Owner, LLC						
Address:	711 Broadway, Floor 6	City:	San Antonio	State:	TX	Zip:	78215-2223
Phone:	(909) 607-4366	Fax:	(909) 621-8542				

II. OPERATION INFORMATION	
Authorizing Eligibility (State Section of 14 CCR Division 7, Chapter 3, 3.1 or 3.2): See back for more details	Section 17388.3
Type(s) of Waste/Material Handled:	Clean dirt, Brick, Rock, Asphaltic Material(fully cured), Concrete, other Inert Materials
Volume of Waste/Material Handled:	8,700,000 cubic yards
Peak Loading: 50,000 yds/mo ☑ Cubic Yards or ☐ Tons	Annual Loading: 420,000 ☑ Cubic Yards or ☐ Tons
Days and Hours of Operation: Mon-Sat; 6 a.m. to 5 p.m.	Operation Acreage: 70 acres
Brief Description of the Operation:	IBY Inert Debris Engineered Fill Operation is located in a former quarry. "Operator XXX"
will manage the import, inspection, processing, placement and compaction of the inert engineered fill.	
The operation will be governed by RWQCB, a California Certified Geotechnical Engineer, and a California Certified Geologist.	
The site is located in Los Angeles County.	

III. DOCUMENTATION OF LOCAL NOTIFICATION (check one and submit with EA Notification)	
☑	Proof of Compliance with the California Environmental Quality Act (CEQA).
☐	Correspondence from the local planning department that compliance with CEQA is not required for the operation to obtain local land use approval.
☐	Written notice to the local planning department of the operator's intent to commence operations.

IV. OWNER/OPERATOR CERTIFICATION			
I hereby certify under penalty of perjury that the information provided is true and accurate to the best of my knowledge and belief.			
Signature of Land Owner:		Date:	
Signature of Operator:		Date:	

* Completion of this form is not required by regulation; however, it will provide the enforcement agency with the information required by 14 CCR 18103.1.

- A separate Notification is required for each eligible operation.

Please cite only one of the following Title 14 regulations when filling in the “authorizing eligibility” box of Notification Form CalRecycle 169:

❒ Section 17362.2. Contaminated Soil Transfer/Processing Operations.
All contaminated soil transfer/processing operations, except as otherwise provided in this Article, shall comply with the Enforcement Agency Notification requirements set forth in Title 14, Division 7, Chapter 5.0, Article 3.0 of the California Code of Regulations (commencing at section 18103). These operations shall be inspected by the enforcement agency at least once every three (3) months unless the enforcement agency approves, with Department concurrence, a reduced inspection frequency. The enforcement agency may approve a reduced inspection frequency only if it will not pose an additional risk to public health and safety or the environment but in no case shall the frequency be less than once per calendar year.

❒ Section 17377.2. Nonhazardous Ash Transfer/Processing Operations.
(a) All operators of nonhazardous ash transfer/processing operations, except as otherwise provided in this Article, shall comply with the Enforcement Agency Notification requirements set forth in the California Code of Regulations, Title 14, Division 7, Chapter 5.0, Article 3.0 (commencing with section 18103).

❒ Section 17383.3. Small Volume C&D Wood Debris Chipping and Grinding Operations (less than 200 tons per day)

(a)(1) A small volume C&D wood debris chipping and grinding operations shall comply with the EA Notification requirements set forth in CCR, Title 14, Division 7, Chapter 5.0, Article 3.0, commencing with section 18100 et seq. and shall be inspected by the EA at least once every three (3) months unless the EA approves, with Department concurrence, a reduced inspection frequency. The EA may approved a reduced inspection frequency only if it will not pose an additional risk to public health and safety or the environment but in no case shall the frequency be less than once per calendar year.

❒ Section 17383.4. Small Volume Construction and Demolition/Inert Debris Processing Operations. (less than 25 tons per day)

All small volume CDI debris processing operations shall comply with the EA Notification requirements set forth in CCR, Title 14, Division 7, Chapter 5.0, Article 3.0, commencing at section 18100. These operations shall be inspected by the EA at least once every three (3) months to verify compliance with minimum standards unless the EA approves, with Department concurrence, a reduced inspection frequency. The EA may approved a reduced inspection frequency only if it will not pose an additional risk to public health and safety or the environment but in no case shall the frequency be less than once per calendar year. To the greatest extent possible, all inspections shall be unannounced and shall be conducted at irregular intervals. The operator shall specify the operation's boundary area in the operating record.

❒ Section 17383.7. Inert Debris Type A Processing Operations. (less than 1500 tons per day)

All inert debris Type A processing operations subject to this Article shall comply with the EA Notification requirements set forth in CCR, Title 14, Division 7, Chapter 5.0, Article 3.0 and commencing with section 18100.

❒ Section 17383.9. Emergency Construction and Demolition/Inert Debris Processing Operations.
(a) All emergency CDI debris processing operations shall comply with the EA Notification requirements set forth in CCR, Title 14, Division 7, Chapter 5.0, Article 3.0, section 18100 et. seq. Such operations may occur at locations which are not permitted solid waste facilities. These operations shall be inspected by the EA as necessary to verify compliance with minimum standards, but in no case less than monthly. To the greatest extent possible, all inspections shall be unannounced and shall be conducted at irregular intervals. The operator shall specify the operation's boundary area in the operating record.

☒ Section 17388.3. Inert Debris Engineered Fill Operations.
Inert debris engineered fill operations shall submit EA Notifications, as set forth in CCR, Title 14, section 18100 et seq. and shall comply with all applicable RWQCB waste discharge requirements.

❒ Section 17403.2. Sealed Container Transfer Operations.
All sealed container transfer operations subject to this Article shall comply with the Enforcement Agency Notification requirements set forth in Title 14, Division 7, Chapter 5.0, Article 3.0 of California Code of Regulations (commencing with section 18100). These operations shall be inspected by the EA at least once every three (3) months to verify compliance with minimum standards unless the EA approves, with Department concurrence, a reduced inspection frequency. The EA may approved a reduced inspection frequency only if it will not pose an additional risk to public health and safety or the environment but in no case shall the frequency be less than once per calendar year. The operator shall specify the operation's boundary area in the operating record.

❒ Section 17403.3. Limited Volume Transfer Operations.
All limited volume transfer operations subject to this Article shall comply with the Enforcement Agency Notification requirements set forth in Title 14, Division 7, Chapter 5.0, Article 3.0 of the California Code of Regulations (commencing with section 18100). These operations shall be inspected by the EA as necessary to verify compliance with minimum standards. Inspections shall be conducted quarterly, unless the EA determines a lesser frequency is necessary, but in no case shall the frequency be less than annual. The operator shall specify the operation's boundary area in the operating record.

❒ Section 17403.3.2. Secondary Material Processing Operations.
(a) All secondary material processing operations subject to this Article shall comply with the Enforcement Agency Notification requirements set forth in Title 14, Division 7, Chapter 5.0, Article 3.0 of the California Code of Regulations (commencing with section 18100).

❒ Section 17403.5. Emergency Transfer/Processing Operations.
(a) All emergency transfer/processing operations shall comply with the Enforcement Agency Notification requirements set forth in Title 14, Division 7, Chapter 5.0, Article 3.0 of the California Code of Regulations (commencing with section 18100). These operations shall be inspected by the EA as necessary to verify compliance with minimum standards, but in no case shall the frequency be less than monthly. The operator shall specify the operation's boundary area in the operating record.

❒ Section 17856. Agricultural Material Composting Operations.
(a) Agricultural material composting operations shall comply with the Enforcement Agency Notification requirements set forth in Title 14, California Code of Regulations, Division 7, Chapter 5.0, Article 3.0 (commencing with Section 18100) and the applicable requirements specified in Chapter 3.1.

❒ Section 17857.1. Green Material Composting Operations.
(a) A green material composting operation may have no more than 12,500 cubic yards of feedstock, chipped and ground material, amendments, additives, and stabilized compost on-site at any one time. Green material composting operations shall comply with the EA Notification requirements set forth in Title 14, Division 7, Chapter 5.0, Article 3.0 (commencing with Section 18100) and the requirements of this Chapter.

❒ Section 17859.1. Biosolids Composting at POTWs.

(a) Except as provided in section 17855(a)(5)(B), the composting of biosolids on-site at a Publicly Owned Treatment Works (POTW) shall comply with the EA Notification requirements set forth in Title 14, California Code of Regulations, Division 7, Chapter 5.0, Article 3.0 (commencing with Section 18100).

❒ Section17862. Research Composting Operations.

(a) An operator conducting research composting operations shall not have more than 5,000 cubic-yards of feedstock, chipped and ground material, amendments, additives, active compost, and stabilized compost on-site at any one time, and shall comply with the EA Notification requirements set forth in Title 14, California Code of Regulations, Division 7, Chapter 5.0, Article 3.0 (commencing with Section 18100), except as otherwise provided by this Chapter.

❒ Section 17862.1. Chipping and Grinding Operations.

(a) A chipping and grinding operation that receives up to 200 tons per day of material that may be handled by a green material composting operation shall comply with the EA Notification requirements set forth in Title 14, Division 7, Chapter 5.0, Article 3.0 (commencing with Section 18100), and the applicable requirements specified in this Chapter.

❒ Section 17896.8. Research In-Vessel Digestion Operations.

(a) An operator conducting research in-vessel digestion operations shall comply with the EA Notification requirements set forth in Title 14, California Code of Regulations, Division 7, Chapter 5.0, Article 3.0 (commencing with section 18100), except as otherwise provided by this Chapter.

❒ Section 17896.9. Dairy In-Vessel Digestion Operations.

(a) All dairy in-vessel digestion operations shall comply with the EA Notification requirements set forth in Title 14, California Code of Regulations, Division 7, Chapter 5.0, Article 3.0 (commencing with section 18100).

❒ Section 17896.10. Distribution Center In-Vessel Digestion Operations.

(a) All distribution center in-vessel digestion operations shall comply with the EA Notification requirements set forth in Title 14, California Code of Regulations, Division 7, Chapter 5.0, Article 3.0 (commencing with section 18100).

❒ Section 17896.11. Limited Volume In-Vessel Digestion Operations.

(a) All limited volume in-vessel digestion operations shall comply with the Enforcement Agency Notification requirements set forth in Title 14, California Code of Regulations, Division 7, Chapter 5.0, Article 3.0 (commencing with section 18100).

EXHIBIT 3

IDEFO CLOSURE DISCUSSION

Closure consists of the California Regional Water Quality Control Board's (CRWQCB) termination of the WDRs, and the County of Los Angeles Public Health's (CalRecycle) approval of the closure and postclosure maintenance plan for the site, respectively, as outlined below.

1) California Regional Water Quality Control Board (CRWQCB)
    a. Operator submits Notice of Completion (90) ninety days prior to the cessation of the disposal operations at the IDEFO to CRWQCB. Operator shall include a Methods and Controls to Protect Receiving Waters Technical Report and description of any proposed subsequent use of the land and shall be prepared under the supervision of a California registered geologist or professional civil engineer, or a California-certified engineering geologist.
    b. Operator submits Request to Close Waste Discharge Requirements (WDRs) to CRWQCB.
    c. CRWQCB provides notice of public hearing which will consider Tentative Order, which will terminate the WDRs.
    d. Public Hearing is held and presuming adoption of the Tentative Order to terminate the WDRs.
    e. CRWQCB provides termination letter and adopted Order which materializes the WDRs termination.
2) County Of Los Angeles – Public Health – Local Enforcement Agency (LEA)
    a. Operator prepares Technical Closure Report pursuant to 14 CCR Section 21170 (a) (1) and (2).
    b. Operator submits Technical Closure Report with CRWQCB WDR termination letter to LEA.
    c. LEA conducts inspection of the site and barring no corrections;
    d. LEA provides Determination of Completion of Closure for IDEFO and SWIS # is closed.

Attached are examples of the closure articles for the Arrow Nu-Way IDEFO which ceased operations in September of 2022.

Arcadia Reclamation, Inc.

December 17, 2021

State of California – Regional Water Quality Control Board
Technical Support Unit - Compliance File CI-8316
320 West 4th Street, Suite 200
Los Angeles, California 90013

SUBJECT: Response to Comments - Notice of Completion, 1200-1270 East Arrow Highway, Irwindale, California (RWQCB Order No. R4-2016-0332 – Compliance File No. CI-8316)

The Site owner(s) retained Arcadia Reclamation Inc. (ARI) to operate the referenced Inert Debris Engineered Fill Operation (IDEFO). ARI implemented the approved plans including the Waste Load Checking Plans, Operations Plan, Storm Water Pollution Prevention Plan and the Waste Discharge Requirements (WDRs). Following completion of the placement of IDEFO materials, properly compacted final cover was placed above the IDEFO materials to near "street grade". The owner(s) released ARI as operator on October 31, 2021. Please note that finish grading (e.g. landscaping, utility trenches etc.) are being completed by others, independent of the IDEFO and associated WDRSs.

Note that subsequent to our submission of the Notice of Completion, RWQCB staff noted the following in their review process:

- "Provision E.11 of the WDRs requires that "*Ninety (90) days prior to cessation of disposal operations at the Landfill, the Discharger shall submit a technical report to the Regional Board describing the methods and controls to be used to assure protection of the quality of receiving waters during final operations and with any proposed subsequent use of the land. Such methods and controls shall comply with the foregoing technical report and the WDRs. The report shall be prepared under the direct supervision of a California registered geologist or professional civil engineer, or a California-certified engineering geologist.*"; and
- *"Once such a report is submitted and a formal request to terminated the WDRs are received, we will proceed with terminating the WDRs at a Board meeting."*

We retained Anacapa Geoservices to respond to the RWQCB's comments and that response is attached. Based on the review comments, we note that our effective date of "cessation of disposal operations at the landfill will be 90 days from the date of this response letter (i.e. March 17, 2022). I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information is, to the best of my knowledge and belief, true, accurate and complete. If you have any questions, please call at your convenience.

Respectfully submitted

Arcadia Reclamation Inc.

John D. Edwards.

John D. Edwards
Program Manager
Distribution: *RWQCB-LA via GeoTracker*

P.O. Box 7368 ***(909) 392-8510***
La Verne, California 91750 ***fax (909) 392-8593***

ANACAPA GEOSERVICES INC.

Personalized Customer Service since 1973

December 17, 2021

Project No. 5349.0003

Arcadia Reclamation Inc.
P.O. Box 7368
La Verne, CA 91750

SUBJECT: Response to RWQCB Comments, 1200 - 1270 East Arrow Highway, Irwindale, California (RWQCB Order R4-2016-0332 – Compliance File No. CI-8316)

Anacapa Geoservices Inc. (Anacapa) presents this Response to Comments as required under RWQCB Order R4-2016-0332, dated October 20, 2016. Provision E.11 of the Waste Discharge Requirements (WDRs) requires that "*Ninety (90) days prior to cessation of disposal operations at the Landfill, the Discharger shall submit a technical report to the Regional Board describing the methods and controls to be used to assure protection of the quality of receiving waters during final operations and with any proposed subsequent use of the land. Such methods and controls shall comply with the foregoing technical report and the WDRs. The report shall be prepared under the direct supervision of a California registered geologist or professional civil engineer, or a California-certified engineering geologist.*"

METHODS AND CONTROLS TO PROTECT RECEIVING WATERS

All import materials used to complete the IDEFO and associated final cover were profiled and inspected to conform to the strict definition of "inert debris". As a result, the potential risk to the footprint of the former quarry which is slated to receive "waters" is minimal. The Storm Water Pollution Prevention Plan is still valid as a component of the existing grading permit and conditional use permit. All storm water drainage is interior to the site. Erosion control methods will remain in place until the site development is complete. The site is fully fenced to minimize the threat to soil and water quality. During the calendar Quarter, the Key Well recorded a continuing decrease in groundwater elevations as follows:

- 183.6' on 29 October, 2021;
- 182.4' on 29 November, 2021; and
- 182.0' on 10 December, 2021

These low levels are presumably related to the ongoing condition of "EXTREME DROUGHT". This continuing drop in the water table further isolates "receiving" waters from any surface or subsurface sourced impacts. We will continue to monitor and/or sample the onsite monitoring wells until such time as the WDRs are terminated.

FUTURE SITE USE

As of the date of this report, long-term future site use is controlled by the zoning restrictions of the site. Until such time as the site is developed, the site will remain as a somewhat flat pad. Future site use is currently indeterminate. If future site use plans become available prior to termination of the WDRs, this office will submit an amendment to this technical report. At completion, storm water detention basins will be used to manage flow, both into the subsurface and into storm water discharge piping.

We appreciate continuing to serve your environmental needs. If you have any questions, please call at your convenience.



ANACAPA GEOSERVICES, INC.
Gregory R. Millikan, P.G. #4708 - expires 31 August 2022
Project Manager

Distribution: *RWQCB (GeoTracker); Addressee*

Arcadia Reclamation, Inc.

March 17, 2022

State of California – Regional Water Quality Control Board
Technical Support Unit - Compliance File CI-8316
320 West 4th Street, Suite 200
Los Angeles, California 90013

SUBJECT: Request to Close Waste Discharge Requirements, 1200-1270 East Arrow Highway, Irwindale, California (RWQCB Order No. R4-2016-0332 – Compliance File No. CI-8316)

The Site owner(s) retained Arcadia Reclamation Inc. (ARI) to operate the referenced Inert Debris Engineered Fill Operation (IDEFO). ARI successfully implemented the approved plans including the Waste Load Checking Plans, Operations Plan, Storm Water Pollution Prevention Plan and the Waste Discharge Requirements (WDRs). Following completion of the placement of IDEFO materials, properly compacted final cover was placed above the IDEFO materials to near "street grade". Subsequent to our submission of the Notice of Completion, RWQCB staff noted the following in their review process:

- "Provision E.11 of the WDRs requires that "*Ninety (90) days prior to cessation of disposal operations at the Landfill, the Discharger shall submit a technical report to the Regional Board describing the methods and controls to be used to assure protection of the quality of receiving waters during final operations and with any proposed subsequent use of the land. Such methods and controls shall comply with the foregoing technical report and the WDRs.*
- "Once such a report is submitted and a formal request to terminated the WDRs are received, we will proceed with terminating the WDRs at a Board meeting."

Based on the review comments, we note that our effective date of "cessation of disposal operations" at the IDEFO is today (i.e. March 17, 2022). We formally request that your office proceed with the preparation of the WDR closure package and schedule the Board meeting to vote on closure of the WDRs.

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information is, to the best of my knowledge and belief, true, accurate and complete. If you have any questions, please call at your convenience.

Respectfully submitted
Arcadia Reclamation Inc.

John D. Edwards.

John D. Edwards
Program Manager

Distribution: *RWQCB-LA via GeoTracker*

P.O. Box 7368 ***(909) 392-8510***
La Verne, California 91750 ***fax (909) 392-8593***

June 9, 2022

Mr. John D. Edwards, Program Manger
Arcadia Reclamation, Inc.
P.O. Box 7368
La Verne, CA 91750
john@yellowironinv.com

TENTATIVE ORDER TO TERMINATE WASTE DISCHARGE REQUIREMENTS - ARROW NU-WAY RECLAMATION, IRWINDALE, CALIFORNIA (FILE NO. 01-084, ORDER NO. R4-2016-0332, CI-8316, GEOTRACKER GLOBAL NO. L10002905176)

Dear Mr. Edwards:

On October 13, 2016, the Los Angeles Regional Water Quality Control Board (Regional Water Board) adopted Waste Discharge Requirements (WDRs) Order No. R4-2016-0332, for the discharge of inert wastes at the Arrow Nu-Way Reclamation (Landfill) in Irwindale, California, that is owned by Irwindale Partners, LP and operated by Arcadia Reclamation Inc. In a letter dated March 17, 2022, you requested termination of Order No. R4-2016-0332 because the permitted discharge of wastes at the site had ceased.

In accordance with administrative procedures, this Regional Water Board, at a public hearing, will consider the enclosed tentative Order, which will terminate WDRs Order No. R4-2016-0332. The hearing will be held on **July 14, 2022**, at the Ventura County Government Center, Board of Supervisors Hearing Room, 800 S. Victoria Avenue, Ventura, CA, and will begin at 9:00 AM.

In order to be fully evaluated by Regional Water Board staff and included in the Board's agenda packet, written comments must be received at the Regional Water Board office by 5:00 PM on **June 20, 2022**. Failure to comply with these requirements is grounds for the Regional Water Board to refuse to admit the proposed written comments or exhibits into evidence. Timely submittal of written comments is encouraged to ensure that all comments are accurately and fully included in the administrative record, that Regional Water Board staff is able to provide a timely review, and that Regional Water Board members have sufficient time to give full consideration to the comments and issues raised.

If you have any questions, please contact me (Project Manager) at (213) 620-2253 or wen.yang@waterboards.ca.gov.

Sincerely,

Wen Yang, Ph.D., C.E.G.
Senior Engineering Geologist
Land Disposal Unit

Enclosure: Tentative Termination Order

cc (via email):

Brianna St. Pierre, State Water Resources Control Board
(Brianna.St.Pierre@waterboards.ca.gov)
Dorcas Hanson-Lugo, Los Angeles County Local Enforcement Agency
(dlugo@ph.lacounty.gov)
Julian Miranda, City of Irwindale (iespino@irwindaleca.gov)
Tony Zampiello, Main San Gabriel Basin Watermaster (tony@watermaster.org)
Joanna Baker, JH Properties Inc. (jbaker@jhproperties.org)
Gregory Millikan, Anacapa Geoservices Inc. (grmillikan@verizon.net)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
320 West 4th Street, Suite 200, Los Angeles, California 90013
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https://www.waterboards.ca.gov/losangeles/

ORDER NO. R4-2022-0xxx

TERMINATION OF WASTE DISCHARGE REQUIREMENTS
FOR
IRWINDALE PARTNERS, LP
Arrow Nu-way Reclamation
File No. 01-084

TENTATIVE

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board), finds:

1. The Regional Water Board adopted waste discharge requirements (WDRs) Order No. 01-179 on December 13, 2001, for United Rock Products Corporation (URP) for the discharge of inert solid wastes at the URP Pit No. 1 Inert Landfill (Landfill) at 1220 and 1270 E. Arrow Highway, Irwindale, California. On December 13, 2004, the ownership of the site was transferred to Irwindale Partners, LP (also known as JH Properties) and operations of the site were transferred to Waste Management. On December 1, 2014, operations of the site were transferred from Waste Management to Cal Arrow Enterprises, Inc., and the name of the site was changed to Arrow Nu-Way Reclamation. Order No. 01-179 was revised by Order No. R4-2016-0332, adopted by the Regional Water Board on October 13, 2016. Irwindale Partners, LP (owner) and Cal Arrow Enterprises, Inc. (operator), were collectively referred to as the "Discharger" in Order No. R4-2016-0332. On October 26, 2016, operations of the Landfill were transferred from Cal Arrow Enterprises to Arcadia Reclamation Inc.

2. The Landfill is located at a triangle-shaped former aggregate quarry pit that was mined for sand and gravel from the 1940's to the 1990's. Inert landfill operations are part of the reclamation of the mining pit that is required under the State Surface Mining and Reclamation Act of 1975 (SMARA). The Landfill has been operated as an Inert Debris Engineered Fill Operation (IDEFO) in accordance with Division 7, Chapter 3 of Title 14 of the California Code of Regulations (Title 14). Wastes permitted to be discharged at the site included native geological materials, uncontaminated concrete, crushed glass, bricks, ceramics, clay and clay products, rock and clean soil, and fully cured asphalt.

3. In accordance with Title 27 of California Code of Regulations (Title 27), Section 20230(b), inert wastes do not need to be discharged at classified units. Adoption of WDRs for discharges of inert waste is at the discretion of the Regional Water Board and is not required by the regulations. The purpose of the WDRs was to ensure that only inert wastes were discharged and the Landfill, while any other type of wastes, such as municipal solid wastes and hazardous wastes, were excluded from the waste stream. The Discharger has been in compliance with the WDRs.

4. In a letter dated October 31, 2021, Arcadia Reclamation Inc. informed the Regional Water Board that landfill operations at the site had been completed. In another letter dated March 17, 2022, Arcadia Reclamation Inc. requested termination of Order No. R4-2016-0332, as the permitted discharge of wastes had ceased.

5. During an inspection of the Landfill on March 8, 2022, Regional Water Board staff observed that the site had been filled to street level and that the property was ready for redevelopment.

6. The Landfill has been monitoring the groundwater quality at the site since 2002 as required under the WDRs. The analytical data collected do not indicate any impact on groundwater quality by the Landfill. However, due to the prolonged drought in southern California, the two downgradient groundwater monitoring wells at the Landfill have been dry since 2015. As a reference, current groundwater monitoring data at the adjacent Irwindale Quarry Inert Landfill, which is directly downgradient to the Landfill, does not indicate pollution of groundwater by landfill operations, either.

7. WDRs included in Order No. R4-2016-0332 are no longer necessary because the permitted discharge of wastes at the Landfill has ceased. Because the Landfill has never received municipal solid waste or other wastes that can produce leachate or landfill gas, the closed Landfill is no longer a threat to groundwater quality. Long-term post-closure monitoring and maintenance at the Landfill are therefore not required.

8. Termination of the WDRs is exempt from the provisions of the California Environmental Quality Act pursuant to California Code of Regulations, title 14, section 15061, subdivision (b)(3) (common sense exemption) because there is no possibility that a termination of waste discharge requirements may have a significant effect on the environment.

9. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to terminate WDRs for this discharge and has provided them with an opportunity to submit their written views and recommendations.

10. The Regional Water Board in a public meeting heard and considered all comments pertaining to the discharge and to the tentative termination of waste discharge requirements.

11. Pursuant to CWC section 13320, any aggrieved party may seek review of this Order by filing a petition with the State Water Resources Control Board (State Water Board). The petition must be received by the State Water Board, P.O. Box 100, Sacramento, CA 95812, within 30 days of the date this Order is adopted.

TENTATIVE

IT IS HEREBY ORDERED that Order No. R4-2016-0332 be terminated, except for enforcement purposes.

The Executive Officer of the Regional Water Board is authorized, and is hereby directed, to certify and submit a copy of this Order to the Discharger, and to such individuals and governmental agencies that request it.

I, Renee Purdy, Executive Officer, do certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on July 14, 2022.

Renee Purdy
Executive Officer

TENTATIVE

Los Angeles Regional Water Quality Control Board

July 26, 2022

Mr. John D. Edwards, Program Manger
Arcadia Reclamation, Inc.
P.O. Box 7368
La Verne, CA 91750
john@yellowironinv.com

TERMINATION OF WASTE DISCHARGE REQUIREMENTS - ARROW NU-WAY RECLAMATION, IRWINDALE, CALIFORNIA (FILE NO. 01-084, ORDER NO. R4-2022-0228, CI-8316, GEOTRACKER GLOBAL NO. L10002905176)

Dear Mr. Edwards:

Reference is made to our letter to you dated June 6, 2022, transmitting a tentative order for the termination of Waste Discharge Requirements (WDRs) for the for the Arrow Nu-Way Reclamation Inert Landfill (Landfill) in Irwindale, California. Pursuant to Division 7 of the California Water Code, the Los Angeles Regional Water Quality Control Board (Regional Water Board), at a public hearing held on July 14, 2022, reviewed the tentative order, considered all factors in the case, and adopted Order No. R4-2022-0228 (Order, copy attached) that terminates WDRs for the subject site. The Order will be posted on the Regional Water Board's website at http://www.waterboards.ca.gov/losangeles/board_decisions/adopted_orders/. Hard copies of the Order may be obtained by contacting the Regional Water Board staff listed below.

If you have any questions regarding this matter, please contact me at (213) 620-2253 or wen.yang@waterboards.ca.gov.

Sincerely,

Wen Yang, Ph.D.
Senior Engineering Geologist
Land Disposal Unit

Enclosure: Order No. R4-2022-0228

cc (via email):

Brianna St. Pierre, State Water Resources Control Board
(Brianna.St.Pierre@waterboards.ca.gov)
Dorcas Hanson-Lugo, Los Angeles County Local Enforcement Agency
(dlugo@ph.lacounty.gov)
Julian Miranda, City of Irwindale (iespino@irwindaleca.gov)
Tony Zampiello, Main San Gabriel Basin Watermaster (tony@watermaster.org)
Joanna Baker, JH Properties Inc. (jbaker@jhproperties.org)
Gregory Millikan, Anacapa Geoservices Inc. (grmillikan@verizon.net)

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ORDER NO. R4-2022-0228

TERMINATION OF WASTE DISCHARGE REQUIREMENTS
FOR
IRWINDALE PARTNERS, LP
Arrow Nu-way Reclamation
File No. 01-084

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board), finds:

1. The Regional Water Board adopted waste discharge requirements (WDRs) Order No. 01-179 on December 13, 2001, for United Rock Products Corporation (URP) for the discharge of inert solid wastes at the URP Pit No. 1 Inert Landfill (Landfill) at 1220 and 1270 E. Arrow Highway, Irwindale, California. On December 13, 2004, the ownership of the site was transferred to Irwindale Partners, LP (also known as JH Properties) and operations of the site were transferred to Waste Management. On December 1, 2014, operations of the site were transferred from Waste Management to Cal Arrow Enterprises, Inc., and the name of the site was changed to Arrow Nu-Way Reclamation. Order No. 01-179 was revised by Order No. R4-2016-0332, adopted by the Regional Water Board on October 13, 2016. Irwindale Partners, LP (owner) and Cal Arrow Enterprises, Inc. (operator), were collectively referred to as the "Discharger" in Order No. R4-2016-0332. On October 26, 2016, operations of the Landfill were transferred from Cal Arrow Enterprises to Arcadia Reclamation Inc.

2. The Landfill is located at a triangle-shaped former aggregate quarry pit that was mined for sand and gravel from the 1940's to the 1990's. Inert landfill operations are part of the reclamation of the mining pit that is required under the State Surface Mining and Reclamation Act of 1975 (SMARA). The Landfill has been operated as an Inert Debris Engineered Fill Operation (IDEFO) in accordance with Division 7, Chapter 3 of Title 14 of the California Code of Regulations (Title 14). Wastes permitted to be discharged at the site included native geological materials, uncontaminated concrete, crushed glass, bricks, ceramics, clay and clay products, rock and clean soil, and fully cured asphalt.

3. In accordance with Title 27 of California Code of Regulations (Title 27), Section 20230(b), inert wastes do not need to be discharged at classified units. Adoption of WDRs for discharges of inert waste is at the discretion of the Regional Water Board and is not required by the regulations. The purpose of the WDRs was to ensure that only inert wastes were discharged and the Landfill, while any other type of wastes, such as municipal solid wastes and hazardous wastes, were excluded from the waste stream. The Discharger has been in compliance with the WDRs.

4. In a letter dated October 31, 2021, Arcadia Reclamation Inc. informed the Regional Water Board that landfill operations at the site had been completed. In another letter dated March 17, 2022, Arcadia Reclamation Inc. requested termination of Order No. R4-2016-0332, as the permitted discharge of wastes had ceased.

5. During an inspection of the Landfill on March 8, 2022, Regional Water Board staff observed that the site had been filled to street level and that the property was ready for redevelopment.

6. The Landfill has been monitoring the groundwater quality at the site since 2002 as required under the WDRs. The analytical data collected do not indicate any impact on groundwater quality by the Landfill. However, due to the prolonged drought in southern California, the two downgradient groundwater monitoring wells at the Landfill have been dry since 2015. As a reference, current groundwater monitoring data at the adjacent Irwindale Quarry Inert Landfill, which is directly downgradient to the Landfill, does not indicate pollution of groundwater by landfill operations, either.

7. WDRs included in Order No. R4-2016-0332 are no longer necessary because the permitted discharge of wastes at the Landfill has ceased. Because the Landfill has never received municipal solid waste or other wastes that can produce leachate or landfill gas, the closed Landfill is no longer a threat to groundwater quality. Long-term post-closure monitoring and maintenance at the Landfill are therefore not required.

8. Termination of the WDRs is exempt from the provisions of the California Environmental Quality Act pursuant to California Code of Regulations, title 14, section 15061, subdivision (b)(3) (common sense exemption) because there is no possibility that a termination of waste discharge requirements may have a significant effect on the environment.

9. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to terminate WDRs for this discharge and has provided them with an opportunity to submit their written views and recommendations.

10. The Regional Water Board in a public meeting heard and considered all comments pertaining to the discharge and to the tentative termination of waste discharge requirements.

11. Pursuant to CWC section 13320, any aggrieved party may seek review of this Order by filing a petition with the State Water Resources Control Board (State Water Board). The petition must be received by the State Water Board, P.O. Box 100, Sacramento, CA 95812, within 30 days of the date this Order is adopted.

IT IS HEREBY ORDERED that Order No. R4-2016-0332 be terminated, except for enforcement purposes.

The Executive Officer of the Regional Water Board is authorized, and is hereby directed, to certify and submit a copy of this Order to the Discharger, and to such individuals and governmental agencies that request it.

I, Renee Purdy, Executive Officer, do certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on July 14, 2022.

Renee Purdy
Executive Officer

HD GEOSOLUTIONS INC.

August 3, 2022

Los Angeles County Public Health - Environmental Health
Solid Waste Management Program / Local Enforcement Agency
5050 Commercial Drive, 1st Floor
Baldwin Park, CA 91706

Attention: Mr. Rasaq Ayodele, R.E.H.S.
Environmental Health Specialist IV

Subject: The Park at Live Oak Development
Closure Report and Completion of Final Fill Cover Arrow IDEFO

Mr. Ayodele:

Arcadia Reclamation, Inc. (ARI) has closed their Inert Debris Engineered Fill Operation (IDEFO). HD Geosolutions, Inc., on behalf of ARI for Irwindale Partners, LP, has prepared the attached Final Report describing historical operations, current conditions and proposed future use of the property.

We hereby certify that the final cover across the site, consisting of 15-feet of clean, imported fill soil, has been completed.

If you have questions please call us at (818) 357-5845 or e-mail us at info@hdgeoinc.com.

Sincerely,
HD GEOSOLUTIONS, INC.

REGISTERED PROFESSIONAL ENGINEER
BRIAN D. SKYERS
No. 2627
EXP. 12-31-22
GEOTECHNICAL
STATE OF CALIFORNIA

Brian D. Skyers, G.E.
Principal Engineer
RGE 2627, Exp. 12-31-22

Cc: Irwindale Partners, LP
Attn: Austin Yellen
Jeff Yellen
Joanna Baker
Yellow Iron Investments
Attn: Tony Spinrad
John Edwards, Jr.
Arcadia Reclamation, Inc.
Attn: John Bachmann

E: info@hdgeoinc.com
T: 818.357.5845
9300 Oso Avenue, Unit A | Chatsworth, CA 91311

HD GEOSOLUTIONS INC.



CLOSURE REPORT
THE PARK AT LIVE OAK
IRWINDALE PARTNERS, LP

APN 8532-001-009 THRU -026
1270 ARROW HIGHWAY
IRWINDALE, CALIFORNIA 91006-5889

PREPARED FOR

IRWINDALE PARTNERS, LP
17853 SANTIAGO BLVD STE 107-475
VILLA PARK, CA 92861

PREPARED BY

HD GEOSOLUTIONS, INC.
9300 OSO AVENUE, UNIT A
CHATSWORTH, CALIFORNIA 91311

PROJECT NO. 70917 **AUGUST 3, 2022**

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1. INTRODUCTION

1.1. SITE DESCRIPTION

The project site is located in the central San Gabriel Valley within the western part of the City of Irwindale. The triangular site is approximately 78.3 acres and is located adjacent to the I-605 Freeway to the west, and approximately ¼ mile west of the San Gabriel River (Figures 1 and 2). The site is bounded to the north by Arrow Highway, and to the south by Live Oak Avenue.

For the purpose of our IDEFO reporting reference, we have subdivided the site into seven general areas. These are designated Areas 1N, 1S, 2N, 2S, 3N, 3S, and the West End Area and are depicted on Figure 4 in Appendix A. The site encompasses three prior parcels/property divisions. These were referred to as the Nu-Way Arrow Pit (roughly Areas 2N, 2S, 3N, and 3S); Triangle Pit or West Pit, (roughly Areas 1N and 1S); and the smaller West End Area to the west of the West Pit.

Although now backfilled, we also refer to the Southeast Pit as roughly corresponding to Area 3S, and refer to the West Pit as roughly corresponding to Areas 1N and 1S (collectively Area 1).

The approved rough grading plan (D&D Engineering, Inc., 2020) corresponds to the former Nu-Way Arrow Pit. The former Triangle Pit has been incorporated into the current IDEFO project. The West End Area also has been incorporated into the site and project. The project grading plan is currently being revised by D&D Engineering, Inc. and will ultimately be reviewed and signed by HD Geosolutions, Inc.

Areas 2N and 2S approximately correspond to the remedial grading area designated “Zone A” on the rough grading plan (Figure E-1). Zone A consisted of a former berm and IDEFO material previously placed by others. This material has been excavated and transported for use in engineered blended rubble fill. The materials removed were sorted based on asphalt content, pulverized as necessary, and replaced as properly compacted blended rubble fill at appropriate elevations within the site in accordance with the rough grading plan.

Removals to depths of 85 feet below finish grade were performed in Zone A per the rough grading plan. The upper 3 feet of the exposed bottom after over-excavation was processed, compacted/proof rolled and tested for relative density as described in our referenced quality assurance reports. The apparent intent of the Zone A removals was to deliver a similar condition as Zone B to the northeast on the rough grading plan. The rough grading plan indicates that at least the upper 88 feet below proposed finish grade in Zone B was placed previously in

accordance with the Irwindale Above Water Fill Guidelines (Irwindale Guidelines, Irwindale Backfill Committee, 2005).

1.2. HISTORY OF QUARRYING ACTIVITIES

Aerial photographs indicate that the former Nu-Way Arrow Pit had been mined for sand and gravel since the 1960s. Morhol, Inc. (2002) indicates that mining had ceased by 2002, and preparations for reclamation of the site were being made. This quarry extended to elevations of approximately Elevation 230 to 240 (feet MSL), corresponding to maximum pit depths of about 160 to 170 feet below the surrounding grades with groundwater often exposed at maximum pit depths.

The former Triangle Pit also was used as a sand and gravel quarry in the past. Aerial photographs indicate that mining occurred approximately during the 1960s and 1970s. Whereas the former Nu- Way Arrow Pit was partially filled after 2002, the West Pit topography as of August 2016 was similar to the mined condition decades earlier. This quarry reached elevations of approximately Elevation 220 to 230, corresponding to maximum pit depths of about 150 to 160 feet below the surrounding grades. Standing water has been present at times in the pit bottom.

Aerial photographs suggest that the West End Area has been neither quarried nor subjected to rough grading. We found that native soils, generally consisting of sand and gravel, are present at relatively shallow depths in this area.

1.3. INERT DEBRIS LANDFILL ACTIVITIES (2002 – 2016)

The easterly site parcel (Nu-Way Arrow Pit) was owned and operated by United Rock Products as of 2002, and the site began operating as an inert landfill in May 2002 (Morhol, 2003b). In 2004, the parcel was sold to Irwindale Partners, LP, and backfill operations were taken over by US Waste of California (Waste Management). The westerly site parcel was purchased by JH Properties in 2016, after which Arcadia Reclamation, Inc. took over the IDEFO for the entire site.

Several geotechnical firms have provided engineering services and/or construction observation and testing services for this site since 2002. The reference list at the end of this report demonstrates the relatively large number of references and consultants since backfilling began. The firms include Morhol, Inc. (2002-2003), Geotechnical Soilutions, Inc. (2003-2004), Zeiser-

Kling (2005-2006), Hushmand Associates, Inc. (2006-2016), and Advanced Earth Sciences (2012-2016) in coordination with Hushmand.

Based on our historical document review, we conclude that the backfilling activities through 2006 were less documented than after 2006, when the backfilling reportedly began to be performed in general accordance with the 2005 Irwindale Guidelines. The dike, or berm in Areas 2N and 2S reportedly was constructed around 1998 to 2000. The upper 85 feet of this material was removed and replaced with properly compacted blended rubble fill and/or soil fill in accordance with the approved rough grading plan.

The Regional Water Quality Control Board (RWQCB) issued Waste Discharge Requirements (WDRs) for the site in 2001. According to RWQCB, acceptable materials included soil, rock, gravel, broken concrete, broken asphalt, glass, brick, ceramics, and inert plastic and rubber tires. Among other requirements, RWQCB stated that asphaltic material shall not be dumped into standing water, nor shall it be placed below the highest anticipated groundwater elevation. The historic high groundwater level is EL318. Asphalt has been and is currently being placed above the historic high groundwater level in accordance with the 2001 WDRs.

1.4. INERT DEBRIS LANDFILL ACTIVITIES (2016-PRESENT)

HDGeo began IDEFO-phase, geotechnical quality assurance services for The Park at Live Oak in August 2016. These services have included geotechnical observation and testing, including large-scale field testing, and engineering. We have performed our services in general accordance with the 2005 Irwindale Guidelines. Grading for the IDEFO phase has included removals of previously-placed fill by others; removals of substandard native soils including talus and fine-grained wash products; benching into native soils, and placement of new engineered fill. These measures are discussed in our referenced previous reports.

The upper 15 feet of the site has been capped with engineered soil fill in accordance with the approved rough grading plan (Appendix B). The rough grading plan specifies that this fill be free of organics with a maximum particle size of 6 inches and no more than 15% greater than 3 inches, have a minimum fines content of 12%, and be non-expansive with a plasticity index of less than 15. The soil cap material was derived from a former surcharge stockpile located in the northeasterly area of the property (Area 3N; Figure 3) when our services began in 2016. Additional material was imported to bring Parcels 3-4 to rough grade during August through October 2021. Import to the site as an IDEFO ceased as of close of business on October 13, 2021. Correspondence with the Regional Water Quality Control Board regarding site closure is included in Appendix C.

1.5. SUMMARY OF GEOTECHNICAL REPORTS

Numerous geotechnical reports have been produced by the various firms retained by the owners since 2002. These include recommendations for slope stabilization, underwater fill specifications and, quarterly and annual geotechnical quality assurance reports.

Links to specific geotechnical documents are available upon request. Approvals of reports submitted to Los Angeles County Geotechnical Materials and Engineering Division (GMED) are included in Appendix D.

1.6. PURPOSE AND SCOPE

There are three agencies with significant responsibilities related to the cessation of IDEFO activities and the transition of the IDEFO to its future use. They are the State of California Regional Water Quality Control Board (RWQCB), the City of Irwindale, and the Los Angeles Solid Waste Management Program (SWMP). This report was prepared to meet the requirements outlined in the WDRs.

The existing WDRs issued by the RWQCB require the following:

> "10. Ninety (90) days prior to cessation of disposal operations at this site, the Discharger shall submit a technical report to the Regional Board describing the methods and controls to be used to assure protection of the quality of receiving waters during final operations and with any proposed subsequent use of the land. Such methods and controls shall comply with the foregoing technical report and the waste discharge requirements. The report shall be prepared under the direct supervision of a California registered geologist or engineer, or a California-certified engineering geologist."

Since the site only contains inert debris which has been processed and compacted, Irwindale Partners, LP satisfies LEA Title 14, Chapter 3, Article 5.95, Section 17388.3(g) of the CalRecycle regulations, which states:

> "(g) Upon the final placement of waste at the site, the operator shall cover the site of fill with three feet of compacted soil above the fill area or with other final cover as determined by the EA. The EA may determine, on the basis of substantial evidence, that a lesser amount of final cover or no final cover is needed, based on potential impacts to the public health, safety and the environment."

Additionally, in accordance with the California Code of Regulations (CCR) 21170 (T14: Section 17787),

(a) The owner or operator, upon completion of closure of the site, shall file a detailed description of the closed site, including a map, with the Recorder of the County in which the site is located, with the EA and with the local agency that has been selected to maintain the county integrated waste management plan. The site description, upon completion of closure of the site, shall include but not be limited to the following:

(1) the date that closure was completed **[IDEFO is closed. Final cover completed October 13, 2021. WDRs terminated by RWQCB on July 14, 2022 by adopting Order No. R4-2022-0228]**;

(2) the boundaries including height and depths of the filled area. If the site was closed in increments, the boundaries of each waste management unit **[See Figure 5 in Appendix A]**;

(3) the location where the closure plan, Specific Plan, and Final Environmental Impact Report (FEIR) can be obtained **[For the closure plan, see Figures 4 and 5 in Appendix A in this report. The Specific Plan and FEIR are available at the City of Irwindale's website: https://www.irwindaleca.gov/392/The-Park-at-Live-Oak.]**; and

(4) a statement that the future site use is restricted in accordance with the postclosure maintenance plan. **[Future site use is restricted as indicated in item 3 above].**

2. IDEFO PLAN

2.1. IDEFO PROCEDURES AND MATERIALS

Irwindale Partners, LP's IDEFO accepts only clean inert wastes consistent with WDRs issued by the RWQCB in Order No. 01-179.

Inert waste, by definition does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives and does not contain significant quantities of decomposable waste. Consistent with WDRs, ARI's IDEFO is allowed to accept only the following inert materials:

a. Uncontaminated soil, rock and gravel
b. Broken Concrete
c. Bricks
d. Glass and ceramics
e. Inert plastics
f. Broken asphalt (only above the highest anticipated GW elevation)
g. Shredded tires (only above the highest anticipated groundwater elevation)

The IDEFO elected to NOT accept inert plastics and/or shredded tires.

The IDEFO reports to the City of Irwindale, the RWQCB – and the County of Los Angeles Solid Waste Management Program. Monthly reports are required under the City of Irwindale's Mitigation Monitoring and Reporting Program (MMRP). Under the MMRP, several items, identified during the CEQA process, are monitored and reported. Any violations are required to be corrected and the corrections are reported. Progress and DMP Reports are uploaded to the RWQCB Geotracker system, as part of the Detection Monitoring Program, the Stormwater Pollution Prevention Plan (SWPPP), and any required Evaluation Monitoring Program. All reports are filed with the applicable agencies. Copies of the reports are available at the agency office or for RWQCB required reports, via Geotracker, and via written request from Irwindale Partners, LP.

2.2. COMPACTION STANDARD

Meeting a satisfactory compaction standard to control settlement is a primary concern in inert debris engineered fills intended for future use. For this IDEFO, all material has been processed and compacted under controlled conditions. The import material is reduced in size, as necessary, with the hydraulic processing equipment in order to achieve fill specification-compliant

material. Material is compacted by rubber-tired bulldozers and other construction traffic, in accordance with the approved Rough Grading Plan by D&D Engineering (Appendix B). Compaction monitoring is conducted via visual observation, photo-documentation, regular monitoring of settlement monuments placed throughout the fill at various elevations to confirm that the material is properly placed, and regular large-scale and conventional density testing in general accordance with the Irwindale Above-Water Fill Guidelines.

In order to verify that fill performance standards were met, the project has been overseen by a licensed geotechnical engineer since the initial placement of material. HD Geosolutions, Inc. (HDGeo) is the current engineer of record. In addition to visual observation, fill settlement was monitored directly through the installation and regular surveying of settlement monuments distributed throughout the fill at various lateral and vertical locations. These locations were planned in coordination with the grading team such that traffic flow and fill placement were not impacted. The monitoring data is presented in Table 4.

HDGeo also acquired other geotechnical data to evaluate and characterize the fill. For example, geophysical testing measured the shear wave velocity profile of the fill at various locations (GeoVision, 2020 and Figure 4). Combining the geotechnical data and visual inspections with the observational method of settlement monitoring provides a measurable level of confidence in the fill characteristics.

2.3. COMPLIANCE STATEMENT

Effective December 2016, HD Geosolutions, Inc. was retained as the Geotechnical Consultant for the siteThe Park at Live Oak inert debris engineered fill operation (IDEFO), as defined by the California Code of Regulations, Title 14 Section 17388(1). The undersigned principal geotechnical engineer has been in responsible charge since December 2016.

The Park at Live Oak IDEFO is located at 1270 Arrow Highway, Irwindale, California.

The proposed final productive use of the IDEFO fill areas is a commercial and industrial center as discussed in Section 6 of this report. The IDEFO definition cited above requires that material placed at a IDEFO is to be "spread on land in lifts and compacted under controlled conditions to achieve a uniform and dense mass which is capable of supporting structural loading as necessary, or supporting other uses such as recreation, agriculture and open space in order to provide land that is appropriate for an end use consistent with approved local general and specific plans where an engineered fill is required to facilitate productive use(s) of the land."

The inert material has been spread on land, at the fill areas, in lifts and compacted as described in Section 2.2. The inert material landfill operation has been in progress at the subject site beginning in 2002 and import for the operation ceased on October 13, 2021. The proposed effective date of cessation of disposal operations is March 17, 2022.

Based on our review of the documents relating to the landfill operations and the settlement monitoring data, it is our opinion that the placement of inert fill in the referenced IDEFO meets the intent of California Code of Regulations, Title 14 Section 17388(1) and is acceptable to provide adequate support for the planned distribution and logistics center at the subject site.

HDGeo, as Geotechnical Consultant for the project, has performed observations and tests, as deemed necessary, to verify compliance of the IDEFO Plan to the California Code of Regulations.

REGISTERED PROFESSIONAL ENGINEER
BRIAN D. SKYERS
No. 2627
EXP. 12-31-22
GEOTECHNICAL
STATE OF CALIFORNIA

By:_____
Brian D. Skyers, P.E., G.E.; exp. 12/31/2022
Principal Geotechnical Engineer

3. GEOLOGIC SETTING

3.1. GENERAL

The project site is located in the central San Gabriel Valley along the west bank of the San Gabriel River. The valley is bordered by the San Gabriel Mountains on the north, the San Jose Hills to the east, the Puente Hills on the south, and on the west by the San Rafael and Repetto Hills. The valley sediment consists primarily of fans shed southward from the San Gabriel Mountains, and to a lesser degree from the other nearby ranges. Coarser materials are contained in broad fans below larger mountain drainages and in channels defined along the major drainages including the San Gabriel and Rio Hondo. The surficial geologic materials of the site area are depicted on Figure 2, Regional Geologic Map.

3.2. SITE GEOLOGY

3.2.1. General

Alluvial sediments at the site were mined for sand and gravel between 1960 and 2002. The resulting quarry excavation is being filled with imported and on-site inert materials. Fill operations began in 2002, and the site is now underlain by engineered blended rubble fill and soil fill ranging up to approximately 170 feet thick, surrounded by and underlain by alluvium to an unknown depth. The geologic sections on Figure 5 depict the general geologic conditions.

Alluvium at the ground surface does remain at the north and south site perimeters adjacent to Arrow Highway and Live Oak Avenue. Recommendations for fill/alluvium transitions are included in our Grading Recommendations in Section 8.7.4.

3.2.2. Non-Engineered Fill

We anticipate that shallow, variable depths of non-engineered, or artificial fill may exist in the perimeter areas of The Park at Live Oak that were not previously quarried. Within the subject site, undocumented fill soils are not anticipated; however, if present, these should be removed and replaced as engineered fill as a part of site development.

3.2.3. Engineered Fill

Engineered fill consists primarily of inert debris as allowed by RWQCB Waste Discharge Requirements. With the general exception of plastic, and rubber tires which are acceptable for import according to the RWQCB, inert debris placed at the site has included soil, rock, gravel, broken concrete, glass, brick, broken asphalt (to be placed above the highest anticipated groundwater level), and ceramic. Rubble has been processed and stripped of steel prior to placement as engineered, blended rubble fill. Asphalt-containing materials have been placed above Elevation 318, which is the historic high groundwater level. The placement of blended rubble fill at the site is documented in our quarterly reports for The Park at Live Oak and HDGeo 2020c, 2021b, and 2021c.

The site has been capped with approximately 15 feet of engineered soil fill in accordance with the rough grading plan. The soil fill was derived from the former northeastern stockpile (Area 3N) and additional import sources. The northeast stockpile had been completely removed prior to capping Parcels 3 and 4, and therefore these parcels were capped with soil derived entirely from other import sources. Our characterization of these materials is presented in this report.

3.2.4. Alluvium/Stream Gravel

Most of the San Gabriel Valley is underlain by alluvial fans shed southward primarily from the San Gabriel Mountains and, to a lesser degree, from the other nearby ranges. The basement rock of the San Gabriel Mountains includes Cretaceous-aged quartz-diorite that has been intruded and faulted into older metamorphics. Materials shed from these "basement complex" igneous and metamorphic rocks tend to consist primarily of larger, erosion-resistant gravels and sands with relatively minor amounts of silt and clay. Alluvial deposits outside of and beyond the immediate influence of the major drainage systems consist of sand and gravel with discontinuous lenses of silt and clay.

The site was quarried in the past to extract the gravelly alluvial sediments deposited largely within the braided San Gabriel River drainage and alluvial fans. These materials consist primarily of sand, gravel, cobbles, and boulders that are weakly cemented, and beige-tan-brown in color. The coarse-grained alluvium grades laterally into the finer grained materials comprising the adjacent floodplain deposits.

Alluvium in the San Gabriel Valley ranges in age from Holocene to Late Pleistocene and is reported to depths of about 100 feet. Pleistocene-aged alluvium tends to be slightly more consolidated and extends to greater depths.

3.3. GROUNDWATER BASIN

Groundwater storage in the San Gabriel Valley groundwater basin occurs primarily in two water- bearing units. These include the alluvial valley sediments and the underlying Fernando Formation. The basin is bounded on the north by the Raymond fault and the basement complex of the San Gabriel Mountains, on the west and south by the Repetto and Puente Hills, and on the east by the Chino and San Jose faults. The bulk of the groundwater in the basin is contained in the unconsolidated to semi-consolidated alluvial aquifer under unconfined conditions.

Recharge in the basin occurs primarily from direct precipitation and percolation of stream flow carried from the San Gabriel Mountains, with more limited contributions from imported water and underflow from adjacent basins and other groundwater sources. Subsurface flow in the basin is generally from the edges toward the center of the basin and then southward toward Whittier Narrows. Groundwater levels in the basin fluctuate over a wide range due to numerous infiltration galleries managed by the San Gabriel Watermaster.

Groundwater levels in the site vicinity have been near historic low elevations in recent years. Groundwater levels also can be affected by the decision of the Watermaster to release water from upstream dams for spreading in the San Gabriel basin. Based on data presented by Anacapa Geoservices, Inc. (2021b), recent groundwater levels in the area have been on the order of EL191. The historic high groundwater level at the site, per the Los Angeles Regional Water Quality Control Board (LARWQCB), is approximately EL318. We understand that the historical high groundwater level is considered to be equal to the highest anticipated groundwater level for this site, according to the site Waste Discharge Requirements (Order R4-2016-0332).

4. NEOTECTONICS

4.1. FAULTING AND SEISMICITY

The numerous faults in southern California include active, potentially active, and inactive faults. Regional faults of significance are depicted on Figure 6, Regional Fault Map. Classifications for these major groups are based upon criteria developed by the California Division of Mines and Geology (CDMG), now known as the California Geological Survey (CGS) for the AP Zone Act program. By definition, an active fault has ruptured within Holocene geologic time (about the last 11,000 years). Active faults are not known to extend through or to project toward the project site. Surface rupture from fault plane displacement propagating to the surface is therefore considered remote.

Faults that display latest movement during Quaternary but prior to Holocene are generally considered to be "potentially active". The Quaternary includes the Holocene and Pleistocene Ages and represents the last 1.6 to 2.0 million years of geologic time. Potentially active faults are not considered an imminent fault rupture hazard, but the potential cannot be completely dismissed. Inactive faults are those faults where the latest displacement is older than the Pleistocene.

The closest active faults to the site are the Duarte fault and the Sierra Madre fault located approximately 2½ miles north of the project along the southern edge of the San Gabriel Mountains. These faults, along with others that occur within a narrow zone that extends along the base of the San Gabriel Mountains, are north-dipping structures that accommodate active uplift of the San Gabriel Mountains. The Clamshell-Sawpit Canyon fault which extends just north of the Duarte and Sierra Madre faults is believed to be the source of the June 28, 1991 Sierra Madre Earthquake (Cal Tech, 2014). All of these faults are included as Alquist-Priolo Earthquake Fault Zones.

The site is located approximately 3½ miles southeast of the Raymond fault. The Raymond fault is mapped for about 14 miles from the Sierra Madre fault zone at the base of the San Gabriel Mountains north of Monrovia, southwestward through the communities of Arcadia, San Marino and South Pasadena, and then northwestward along York Boulevard. The fault is coincident with prominent geomorphic scarps across the communities of Pasadena and Highland Park. The fault is part of an east-west trending system that also includes the Malibu Coast fault, the Santa Monica fault and Hollywood fault. The Raymond fault dips north and is generally considered to have a left-lateral, reverse sense of slip. Crook et. al. (1987) suggests there have been at least three earthquake events on the Raymond fault during the Holocene with the most recent

occurring between 1,500 and 2,000 years ago. The Raymond fault is included as an Alquist-Priolo Earthquake Fault Zone by the State Geologist.

The East Montebello fault is a short fault segment included in an Alquist-Priolo Earthquake Fault Zone located about 6 miles west of the site. The fault extends northwest over a distance of about 1½ miles from just east of the intersection of I-60 and San Gabriel Boulevard to about ¼ mile south of the intersection of San Gabriel Boulevard and Garvey Avenue. Yeats (2001) considers the fault to be a northwestward extension of the Whittier fault with a reduced slip rate due to accommodation of slip in the Montebello Anticline.

The Whittier segment of the Whittier-Elsinore fault zone approaches within about 9 miles south of the site. This fault zone extends nearly 200 miles from Laguna Salada in northern Mexico to just north of Whittier. The zone accommodates major right lateral slip and is considered to be a part of the San Andreas fault system. The Whittier segment extends about 24 miles from near Corona to north of Whittier. The fault is included in Alquist-Priolo Earthquake Fault Zones over most of this distance.

The project site is located approximately 5 miles northeast of the boundary of the Elysian Park Fold and Thrust Belt. The Elysian Park fault is actually a blind fault (i.e. a buried fault that does not extend to the surface) capped by a fold and thrust structure. The axial trend of the fold extends approximately 12 miles through the Elysian Park-Repetto Hills from about Silver Lake on the west to the Whittier Narrows on the east. The 1987 Whittier Narrows earthquake (magnitude 5.9) has been attributed to subsurface thrust faults, which are reflected at the earth's surface by a west- northwest trending anticline known as the Elysian Park Anticline, or the Elysian Park Fold and Thrust Belt. The subsurface faults that create the structure are not exposed at the surface and do not present a potential surface rupture hazard; however, as demonstrated by the 1987 earthquake and two smaller earthquakes on June 12, 1989, the faults are a source for future seismic activity. As such, the Elysian Park Fold and Thrust Belt should be considered an active feature capable of generating future earthquakes.

A list of known active faults and their distances from the project site are presented in Table 1, Major Faults Considered to be Active in Southern California.

TABLE 1 – MAJOR FAULTS CONSIDERED TO BE ACTIVE IN SOUTHERN CALIFORNIA

Fault	Maximum Credible Earthquake			Slip Rate (mm/yr)	Distance from Site (miles)	Direction from Site
Duarte	6.7	(a)	RO	0.1	2 ½	N
Sierra Madre	7.3	(c)	RO	4.0	3	N
Raymond	6.7	(f)	RO	0.4	3½	NW
Elysian Park Fold and Thrust Belt	7.1	(c)	RO	1.7	5	SSW
East Montebello	NA		SS		6	W
Whittier	7.1	(b)	SS	3.0	9	S
Verdugo	6.75	(d)	RO	0.5	13	WNW
Hollywood	7.0	(c)	RO	1.5	16	W
Cucamonga	7.0	(g)	RO	5	20	WNW
Newport-Inglewood Zone	7.0	(d)	SS	1.0	22	SW
Northridge	6.9	(h)	RO	1.5	27	WNW
San Fernando	6.8	(g)	RO	5.0	22	NW
San Andreas (Mojave Segment)	8.2	(e)	SS	30.0	26	NE

(a) Greensfelder, CDMG Map Sheet 23, 1974.
(b) Blake, 1995
(c) Dolan et al., 1995
(d) Mualchin & Jones, 1992
(e) OSHPD, 1995
(f) Wesnousky, 1986
(g) SDEDC
(h) Peterson et al., 1996
SS Strike Slip
NO Normal Oblique
RO Reverse Oblique

Site to fault distances measured using location of late Quaternary fault rupture map by Ziony and Jones, 1989 at a scale of 1:250,000.

A list of known potentially active faults and their distances from the project site are indicated in Table 2, Major Faults Considered to be Potentially Active:

TABLE 2 – MAJOR FAULTS CONSIDERED TO BE POTENTIALLY ACTIVE

Fault	Maximum Credible Earthquake			Slip Rate (mm/yr)	Distance from Site (Miles)	Direction from Site
San Jose	6.7	(d)	RO	0.5	8	SE
Indian Hill	N/A				8	E
Norwalk	6.7	(a)	RO	0.1	13	S
Chino-Central Avenue	7.0	(c)	NO	1.0	17	SE
Rialto-Colton	6.4	(e)	SS	n/d	31	E
Los Alamitos	6.2	(b)	SS	0.1	19	S

(a) Slemmons, 1979
(b) Mark, 1977
(c) Blake, 1995
(d) Dolan et al., 1995
(e) Wesnousky, 1986
SS Strike Slip
NO Normal Oblique
RO Reverse Oblique
n/d Not determined

Site to fault distances measured using location of late Quaternary fault rupture map at a scale of 1:250,000 as documented by Ziony and Jones, 1989

Several earthquakes of moderate to large magnitude (greater than 5.3) have occurred in the southern California area within the last 60 years. A list of these earthquakes is included in Table 3, List of Major Historic Earthquakes.

TABLE 3 – LIST OF MAJOR HISTORIC EARTHQUAKES

Earthquake	Date of Earthquake	Magnitude	Distance to Epicenter (miles)	Direction to Epicenter
Long Beach	March 11, 1933	6.4	29	S
San Fernando	February 9, 1971	6.6	31	NW
Whittier Narrows	October 1, 1987	5.9	6	WSW
Sierra Madre	June 28, 1991	5.4	9	N
Big Bear	June 28, 1992	6.4	89	E
Landers	June 28, 1992	7.3	66	E
Northridge	January 17, 1994	6.7	32	WNW
Ridgecrest	July 4, 2019	6.4	112	NNE

It should be noted that major earthquakes have not been recorded within historic time on all of the faults considered to be active in southern California. Evidence of the fault's potential activity is based on the fault's rupturing materials younger than about 11,000 years and our historic records are limited to a few hundred years.

The project site is not exposed to a greater than normal seismic risk than other areas of southern California. However, based on the active and potentially active faults in the region, the project site could be subjected to significant ground shaking in the event of an earthquake. This hazard is common to southern California and can be mitigated if the buildings are designed and constructed in conformance with applicable building codes and sound engineering practices.

4.2. SLOPE STABILITY

Seismic Hazards Maps depict earthquake-induced landslide zones generally along the perimeter of the site, corresponding to the quarry slopes. The Seismic Hazards Map that pertains to the site is based on topography prior to reclamation of the quarry. The slopes associated with the IDEFO have been eliminated.

As no open face slopes remain on the site, slope stability issues will not impact future development.

4.3. SOIL LIQUEFACTION AND SEISMIC SETTLEMENT

4.3.1. Soil Liquefaction

Liquefaction potential is greatest where the groundwater level is shallow, and loose sands or silts occur within a depth of about 50 feet or less. In general, liquefaction potential decreases as grain size and clay and gravel content increase. As ground acceleration and shaking duration increase during an earthquake, liquefaction potential increases. Soil liquefaction can cause significant structural damage.

The site is not located within a zone designated by the state geologist as being susceptible to soil liquefaction. More detailed, site-specific geotechnical investigations are required for sites within a liquefaction hazard zone, as required by the 1990 Seismic Hazards Mapping Act. The liquefaction hazard zoning for this site is depicted on Figure 7.

In addition to the site grading and soil characteristics, future groundwater levels are not anticipated to be rise above approximately 60 to 80 feet below the final site grade. Based on the

density of the engineered fill and the anticipated future high groundwater depths, we consider the potential for liquefaction at the site to be low.

4.3.2. Dry/Partially-Saturated Seismic Settlement

Seismically-induced settlement is often caused by the densification of dry to partially-saturated, loose to medium-dense granular soils during ground shaking. While uniform settlement beneath a structure may not cause significant damage, the variations in distribution, density, and confining conditions of natural soils, seismic settlement is generally non-uniform and can cause serious structural damage.

The development plans indicate that the proposed structure at the site will be located within the limits of the engineered fill, while utilities will pass from the engineered fill into the native materials located at the site perimeter. HDGeo performed full time observation and testing of the engineered fill, and shear wave velocity testing at the site (HDGeo, 2020c and 2021c) corresponds to a Site Class C (very dense soil or soft rock) per the 2019 CBC. Therefore, a screening analysis yields a low potential for dry/partially-saturated seismic settlements within the engineered fill at the site.

Alluvial materials at the margin of The Park at Live Oak appear to generally be susceptible to seismic settlement on the order of $1\frac{1}{8}$ inch, where explored. However, there may be areas of greater potential seismic settlement at other perimeter areas surrounding the site. Therefore, we recommend that utilities crossing from alluvium to onsite fill be designed for seismic settlement of up to 2 inches.

5. FILL PERFORMANCE

5.1. FIELD DENSITY TESTING

The upper approximately 15 feet of the site rough grade was capped with engineered soil fill since our previous geotechnical submittals (HDGeo 2020c, 2021b, and 2021c). The material was derived from numerous import sources. HDGeo was notified of each source in advance, and we performed laboratory testing on representative samples. We also performed conventional field density tests on compacted soil fill material to monitor density relative to our laboratory data. The rough grading plan specifies that the soil fill be free of organics with a maximum particle size of 6 inches and no more than 15% greater than 3 inches, have a minimum fines content of 12%, and be non-expansive with a plasticity index of less than 15. We note that there were prospective sources of soil import that we evaluated that did not meet the above criteria; these sources were rejected for use.

During rough grading, if a field density test indicated less than the required compaction, the soils in the area were reworked and retested until at least the specified degree of compaction was achieved.

5.2. FIELD SETTLEMENT MONITORING UPDATE

Since HDGeo assumed the role of engineer of record in December 2016, a total of 45 settlement monuments have been installed in the vicinity of the site (Figure 4, Appendix A), many of which are grouped into clusters of varying depth to monitor the fill throughout its thickness. The settlement monuments continue to be surveyed monthly, except for surficial monuments SM303-6, which were located on top of the former northeasterly stockpile. We also continue to monitor the borehole extensometers installed in Borings SB-1, whereas SB-2 was destroyed during November 2021 to accommodate utility construction to the west of the site. The settlement measurements as of February 2022 are presented in Table 4,

Measurements through February, 2022 range from approximately 1 to 19 inches in response to placement of up to approximately 20 to 110 feet of fill. Listed below are our findings and conclusions regarding the settlement measurements at the site:

- The survey readings generally indicate that settlement has occurred as compacted fill was placed at the site, as expected. As fill areas have plateaued for periods of time due to the particulars of grading operations, settlements generally have tapered or ceased. The readings also demonstrate upward and downward movements due to grading operations, including excavations, within the zone of influence surrounding the monuments.

- In our experience with similar projects, settlement monitoring data reliably depicts the soil behavior caused by static loading. Our engineering judgment and experience is applied to separate the surcharge-settlement data from the influence of grading larger areas at a greater distance from the monuments.

- The greatest settlement measurements, approximately 16-19 inches, are associated with Cluster A and D, and SM 307 in the former Area 3S, Southeast Pit (Figure 4, Appendix A), and which are relatively older and deeper monuments. A surcharge on the order of 10-15 kips per square foot has produced these settlements. There appears to be no downward trend in settlement monument movement over the last 6 to 11 months in these monuments.

- Settlement at monuments appears to stabilize within 1 to 3 months after application of a given load provided that areas adjacent to the monument are not undergoing significant fill placement, stockpiling or grade changes. Beyond this timeframe, the settlement typically slows to a negligible rate, and secondary (i.e., long-term) compression effects appear to be negligible.

- The final day of rough grading was October 13, 2021. Load was being added to the site until this time. Since fill completion, performance of settlement monuments has been as expected. Surveying of settlement monuments should continue if practical, subject to the approval of the geotechnical engineer of record.

TABLE 4: SUMMARY OF SETTLEMENT MONUMENTS AND BOREHOLE EXTENSOMETERS

Site Area	Cluster Designation	Settlement Monument or Extensometer	Installation Date	Settlement as of Feb. 1 2022 (inches)
SE Pit (Area 3S)	A	SM300	4-18-17	17.8
		SM310	11-3-17	11.7
	B	SM301	7-18-17	4.2
		SM308	11-1-17	3.6
		SM316	6-12-18	1.8
	D	SM311	11-20-17	18.7
		SM314	3-28-18	5.5
	L	SM337	9-17-20	0.2
		SM339	9-25-20	0.9
		SM307	10-30-17	16.0
		SM312	2-20-18	1.0
West Pit (Area 1)	C	SM302	9-12-17	8.6
		SM309	11-2-17	9.5
		SM319	7-17-18	5.8
		SM323	9-19-18	4.8
	E	SM313	3-27-18	4.7
		SM315	5-1-18	4.5
		SM317	6-13-18	3.4
		SM318	6-14-18	2.0
Zone A/ Central Area (Area 2)	F	SM321	8-14-18	1.0
		SM322	9-18-18	2.3
	G	SM320	8-13-18	2.3
		SM325	10-9-18	3.6
	H	SM327	11-7-18	3.5
		SM328	1-28-19	2.9
	I	SM329	5-22-19	3.0
		SM331	2-4-20	2.0
	J	SM330	7-8-19	2.8
		SM332	2-6-20	2.1
		SM334	8-5-20	2.1*****
		SM324	9-24-18	5.4
		SM326	11-5-18	5.0******
NE Surcharge Fill (Area 3N)	K	SM333	6-24-20	4.5
		SM335	8-6-20	2.3
		SM336	8-13-20	0.6
	M	SM 340	1-14-21	0.8
		SM 342	2-23-21	1.4
	N	SM 341	1-27-21	0.7
		SM 343	3-1-21	1.5
	O	SM 344	4-26-21	-0.4
		SM 345	5-6-21	-0.9
		SM 338	9-24-20	-0.5
		SM303	9-12-17	1.0*
		SM304	9-12-17	1.2**
		SM305	9-12-17	1.5***
		SM306	9-12-17	1.7****
Extensometer Borings		SB-1	9-21-18	-0.5 - 1.8
		SB-2	9-24-18	0.2 - 2.2

*SM 303 Destroyed. Last survey performed on 7/2/2020

**SM304 Destroyed. Last survey performed on 11/1/2019.

***SM305 Destroyed. Last survey performed on 8/1/2019.

****SM306 Destroyed. Last survey performed on 9/9/2019.

*****SM 326 Bent. Last survey performed on 12/1/21

******SM 334 Destroyed. Last survey performed 11/1/2021

6. PROPOSED DEVELOPMENT

6.1. DESCRIPTION

Planned project development will consist of the construction of commercial and industrial buildings that collectively provide up to 1.55 million square feet of building space. Associated improvements to the property include, but are not limited to, paved parking areas, drive aisles, truck courts, utility infrastructure, landscaping, retention basins with dry wells, monument signage, lighting, retaining and screen walls, gates, and fencing.

In WDR Order No. 01-179, the RWQCB determined that no liner is required because inert waste does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives. Final cover was observed, tested and documented/certified by the geotechnical consultant. An aerial survey by Robert J. Lung & Associates was flown on November 3, 2021. The elevation of final cover as of the November 3, 2021 survey is reflected on Figure 4 in Appendix A.

6.2. PROPOSED INFILTRATION SYSTEM

A tentative grading plan was prepared by D&D Engineering, Inc. On-site parking lots and internal access roads will be constructed with drainage swales that will collect stormwater and direct those flows to drainage inlets. The drainage inlets will connect to pipes that are designed to transport flows into on-site storm water retention basins located on the site's perimeter. To accommodate the generally southern drainage direction of the property that occurs under existing conditions, three retention basins are located along Live Oak Avenue. A fourth basin is proposed along the easterly project site boundary. The basins are designed to retain stormwater for a 50-year event and facilitate water quality filtration, percolation, and evaporation. The total 50-year peak flow rate for these areas is approximately 79 cfs. Stormwater more than a 50-year storm event would discharge into the San Gabriel River.

Hydrology calculations were computed using the Los Angeles County Department of Power and Water Baldwin Park 1-H1.21, 50-year, 24-hour isohyet (6.8 inches rainfall depth) and associated runoff coefficient curve Soil Type No.08 and No.15.

D&D Engineering, Inc. concluded in their preliminary hydrology calculations that there will not be an adverse effect on the San Gabriel River with the proposed storm drain connection.

7. SUMMARY

As required by Provision D.10 of Order No. 01-179, WDRs issued by the RWQCB, Los Angeles Region, the site operator has prepared this technical report. This report describes the methods and controls to be used to assure protection of the quality of receiving waters during final operations and with the currently proposed future use of the land. Future site development is currently intended to be used as commercial buildings in accordance with the site zoning and current future use plans. In order to ensure the long-term performance of the proposed distribution and logistics center, as well as to ensure the quality of receiving waters during and after the IDEFO, the site will incorporate the following elements:

a. A final fill cover of 15 feet in thickness, consisting of clean compacted soil.

b. Drainage swales to direct stormwater to four (4) retention basins

This report serves the purpose of addressing the Title 14, Chapter 3, Article 5.95, Section 17388.3 (g) CalRecycle regulatory requirement to cover the site with a minimum of 3 feet or more of final cover above the inert debris engineered fill.

Irwindale Partners, LP, is seeking confirmation from Los Angeles Solid Waste Management Program, (The LEA) that the closure requirements described in Title 14, Chapter 3, Article 5.95, Section 17388.3 (g) have been met and that The Park at Live Oak Project. The proposed .

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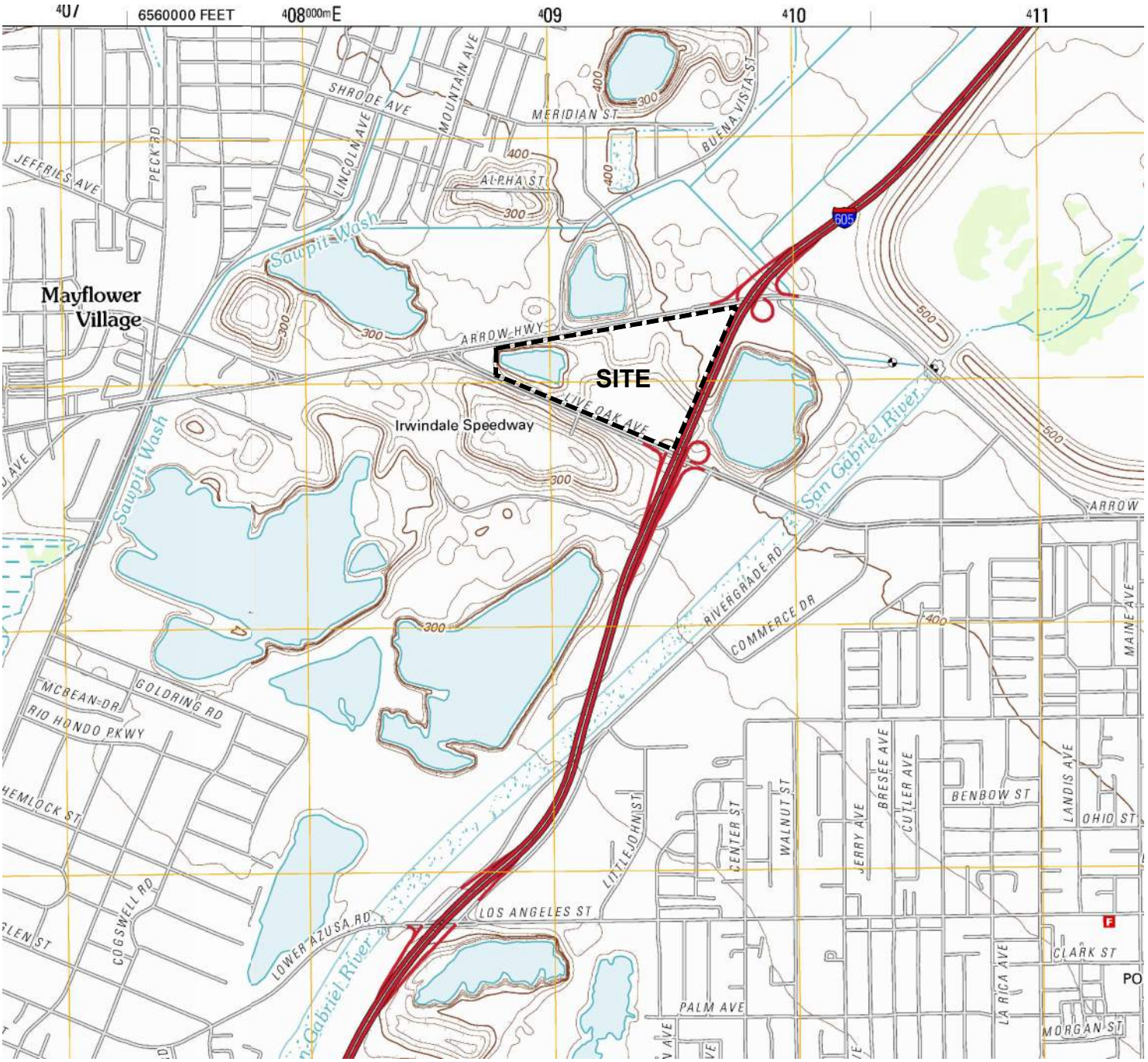
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APPENDIX A

Figures



SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2

1000 500 0 METERS 1000 2000

1 0.5 0 1

MILES

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

FEET

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

MN
12° 31'
223 MILS
GN
0° 36'
11 MILS

UTM GRID AND 2012 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

HD GEOSOLUTIONS INC.

REFERENCES:
U.S.G.S. 7.5 Minute Baldwin Park and El Monte Quadrangles 2012

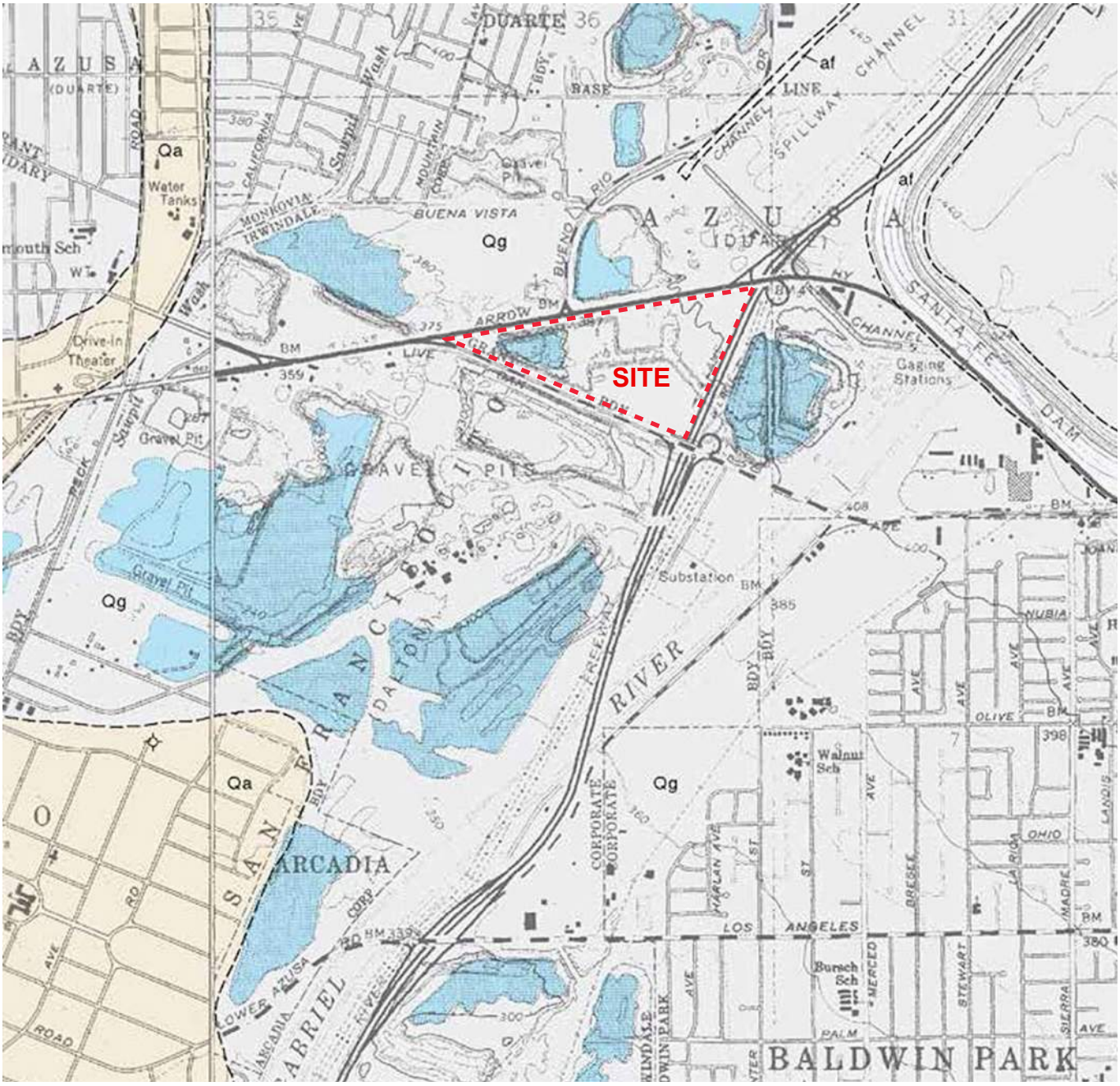
Title: **SITE VICINITY MAP**

Project Address:
1270 Arrow Highway
Irwindale, CA 91706

Date: Feb. 2022

Job No. 70917

FIGURE 1



LEGEND

af
Qg Qa

SURFICIAL SEDIMENTS
Undissected alluvial deposits

af *Artificial fill, and cut and fill areas*
Qg *Gravel and sand of major streams, and alluvial fan detritus from San Gabriel Mountains, grades southward into alluvium (**Qa**) as sizes of clasts decrease*
Qa *Alluvial gravel, sand and silt of valleys and floodplains*

GN MN 15.5°

UTM GRID AND 1953 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

HD GEOSOLUTIONS INC.

REFERENCES:
Geologic Map of the El Monte & Baldwin Park Quadrangles by Thomas W. Dibblee, Jr., 1999

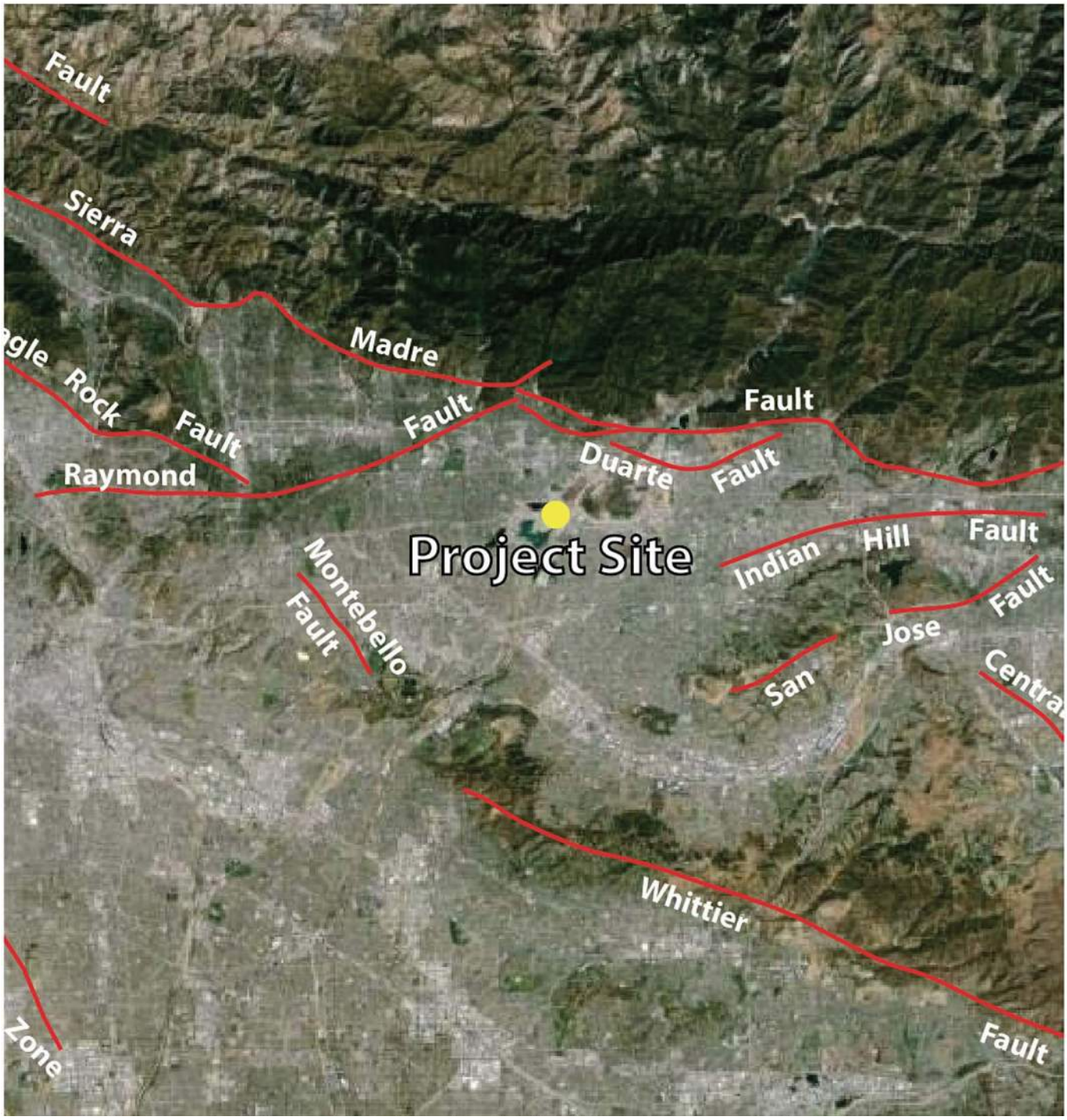
Title: **REGIONAL GEOLOGIC MAP**

Project Address: 1220-1270 Arrow Hwy. Irwindale, CA 91706

Date: Feb. 2022

Job No. 70917

FIGURE 2



0 5' 10'

MILES

HD GEOSOLUTIONS INC.

Reference: Image Landsat adapted from Google Earth on April 15, 2018

Regional Fault Map

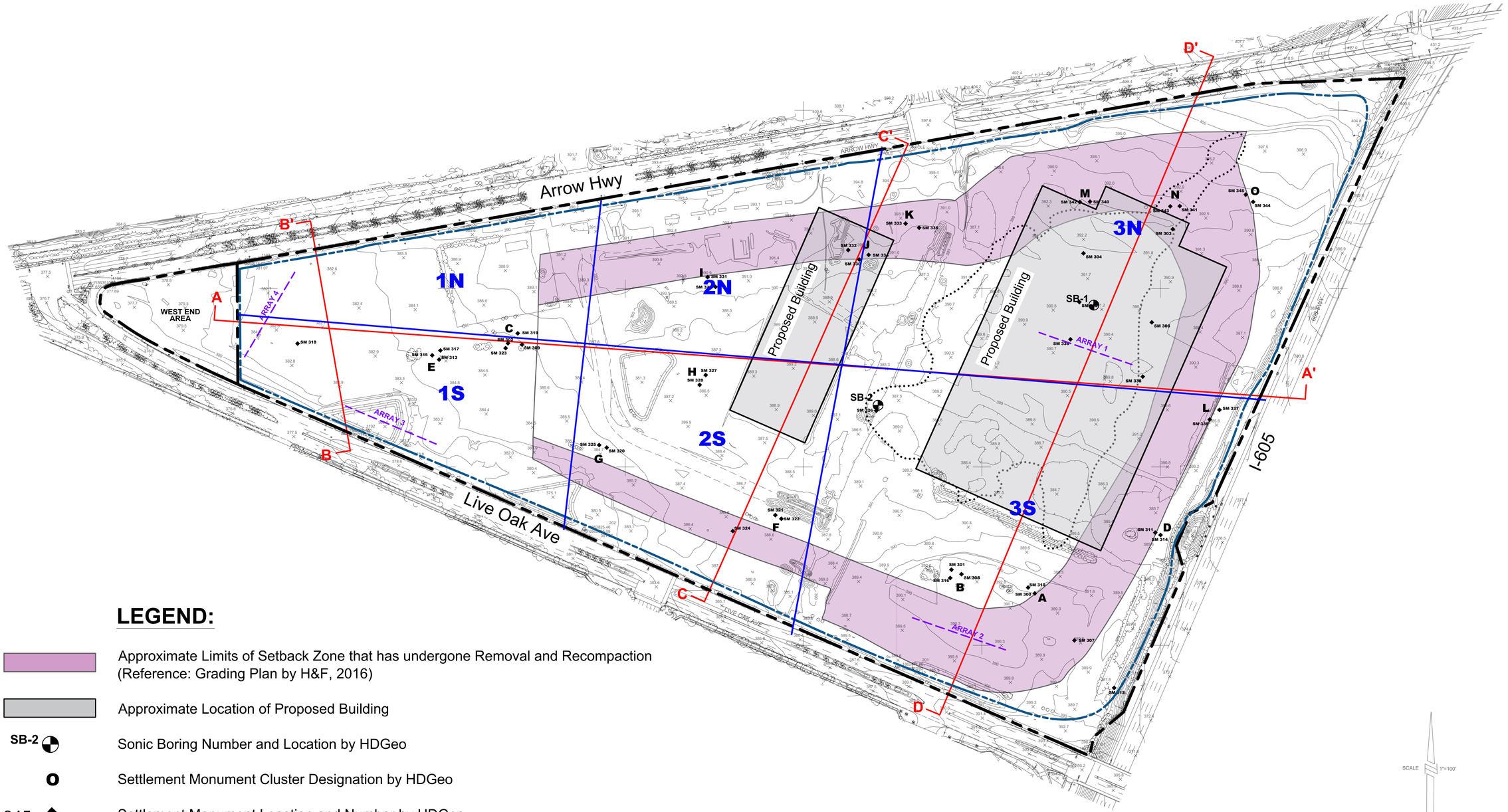
(Faults of Significance)

1220-1270 Arrow Hwy.
Irwindale, CA 91706

Date: Feb. 2022

Job No. 70917

FIGURE 3



LEGEND:

- Approximate Limits of Setback Zone that has undergone Removal and Recompaction (Reference: Grading Plan by H&F, 2016)
- Approximate Location of Proposed Building
- SB-2 — Sonic Boring Number and Location by HDGeo
- O — Settlement Monument Cluster Designation by HDGeo
- SM 345 — Settlement Monument Location and Number by HDGeo
- Approximate Limits of Finished Grade
- Approximate Limits of Wash Products based on historical information and HDGeo explorations
- Active Surface Wave Array (Performed in March 2020)
- D — D' Geologic Cross Section

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   Robert J. Lung & Associates
   Dated: 11/3/2021
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   Dated: 10/1/21

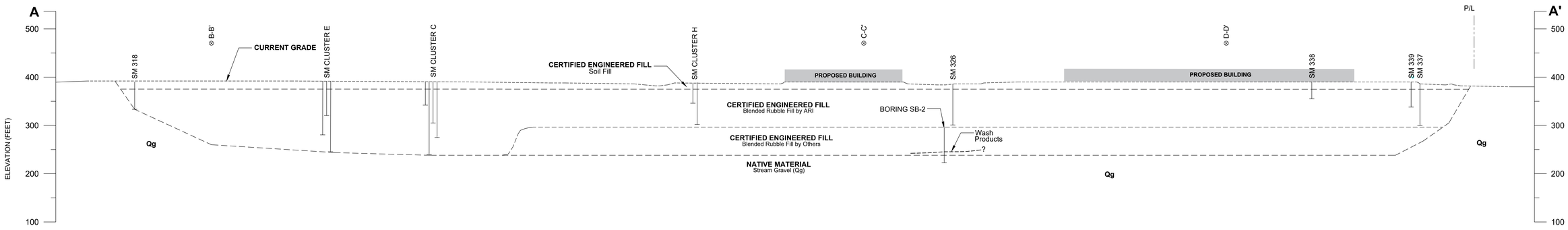
HD GEOSOLUTIONS INC.

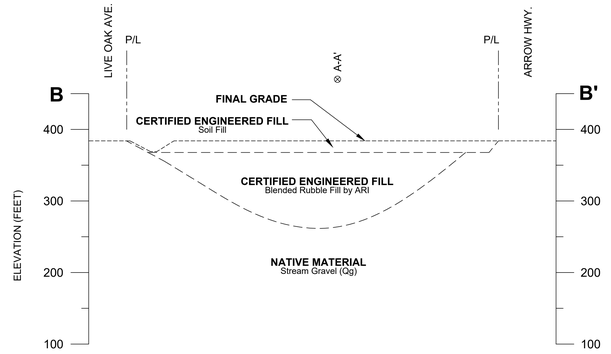
Geologic Map

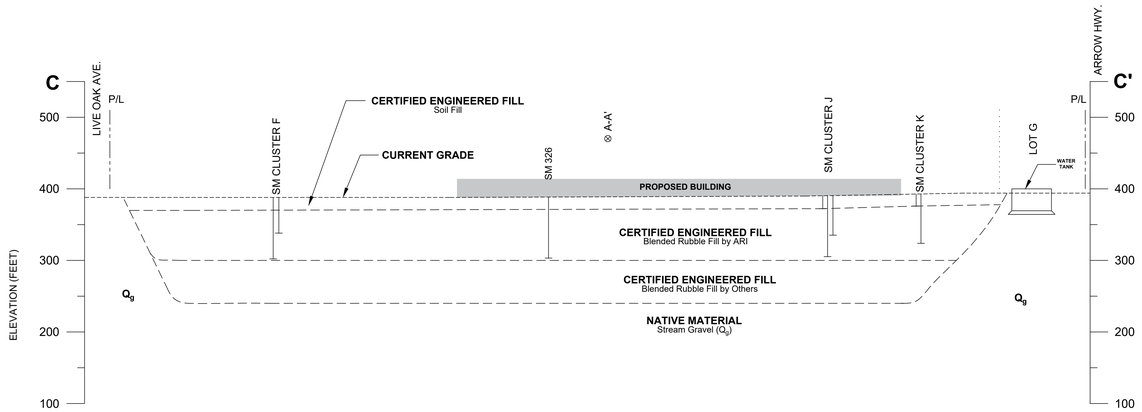
Date: February 2022

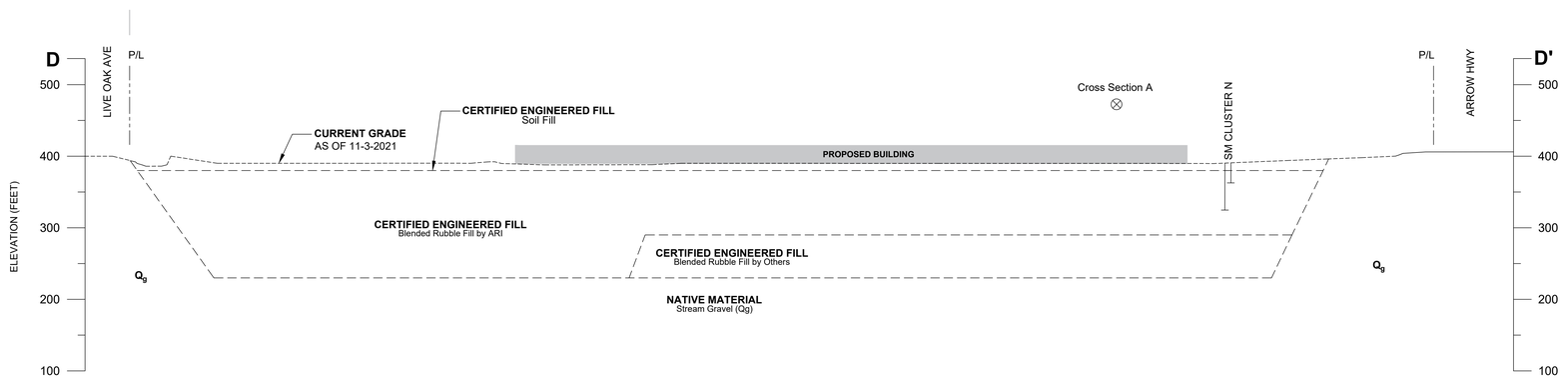
Job No. 70917

Figure 4









REFERENCES:

1. Aerial Survey
   Robert J. Lung & Associates
   Dated: 11/3/2021

2. Complete Grading Plans
   Kimley-Horn and Associates, Inc.
   Dated: 10/1/21

HD GEOSOLUTIONS INC.

Geologic Sections

Horizontal & Vertical Limits of Fill

Date: February 2022

Job No. 70917

Figure 5

APPENDIX B

Approved Rough Grading Plan

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ROUGH GRADING PLAN
NUWAY-ARROW PIT
1270 ARROW HIGHWAY
IRWINDALE, CA
COUNTY OF LOS ANGELES

GENERAL NOTES

1. ALL GRADING AND CONSTRUCTION SHALL CONFORM TO THE COUNTY OF LOS ANGELES BUILDING CODES AND THE STATE MODEL WATER EFFICIENCY LANDSCAPE ORDINANCE UNLESS SPECIFICALLY NOTED ON THESE PLANS
2. ANY MODIFICATIONS OF OR CHANGES TO APPROVED GRADING PLANS MUST BE APPROVED BY THE BUILDING OFFICIAL.
3. NO GRADING SHALL BE STARTED WITHOUT FIRST NOTIFYING THE BUILDING OFFICIAL. A PRE-GRADING MEETING AT THE SITE IS REQUIRED BEFORE THE START OF THE GRADING WITH THE FOLLOWING PEOPLE PRESENT: OWNER, GRADING CONTRACTOR, DESIGN CIVIL ENGINEER, SOILS ENGINEER, GEOLOGIST, COUNTY GRADING INSPECTOR(S) OR THEIR REPRESENTATIVES, AND WHEN REQUIRED THE ARCHEOLOGIST OR OTHER JURISDICTIONAL AGENCIES. PERMITTEE OR HIS AGENT ARE RESPONSIBLE FOR ARRANGING PRE-GRADE MEETING AND MUST NOTIFY THE BUILDING OFFICIAL AT LEAST TWO BUSINESS DAYS PRIOR TO PROPOSED PRE-GRADE MEETING.
4. APPROVAL OF THESE PLANS REFLECT SOLELY THE REVIEW OF PLANS IN ACCORDANCE WITH THE LOS ANGELES COUNTY BUILDING CODE AND DOES NOT REFLECT ANY POSITION BY THE COUNTY OF LOS ANGELES OR THE DEPARTMENT OF PUBLIC WORKS REGARDING THE STATUS OF ANY TITLE ISSUES RELATING TO THE LAND ON WHICH THE IMPROVEMENTS MAY BE CONSTRUCTED. ANY DISPUTES RELATING TO TITLE ARE SOLELY A PRIVATE MATTER NOT INVOLVING THE COUNTY OF LOS ANGELES OR THE DEPARTMENT OF PUBLIC WORKS.
5. ALL GRADING AND CONSTRUCTION ACTIVITIES SHALL COMPLY WITH COUNTY OF LOS ANGELES CODE, TITLE 12, SECTION 12.12.030 THAT CONTROLS AND RESTRICTS NOISE FROM THE USE OF CONSTRUCTION AND GRADING EQUIPMENT FROM THE HOURS OF 8:00 PM TO 6:30 AM, AND ON SUNDAYS AND HOLIDAYS. (MORE RESTRICTIVE CONSTRUCTION ACTIVITY TIMES MAY GOVERN, AS REQUIRED BY THE DEPARTMENT OF REGIONAL PLANNING AND SHOULD BE SHOWN ON THE GRADING PLANS WHEN APPLICABLE.)
6. CALIFORNIA PUBLIC RESOURCES CODE (SECTION 5097.98) AND HEALTH AND SAFETY CODE (SECTION 7050.5) ADDRESS THE DISCOVERY AND DISPOSITION OF HUMAN REMAINS. IN THE EVENT OF DISCOVERY OR RECOGNITION OF ANY HUMAN REMAINS IN ANY LOCATION OTHER THAN A DEDICATED CEMETERY, THE LAW REQUIRES THAT GRADING IMMEDIATELY STOPS AND NO FURTHER EXCAVATION OR DISTURBANCE OF THE SITE, OR ANY NEARBY AREA WHERE HUMAN REMAINS MAY BE LOCATED, OCCUR UNTIL THE FOLLOWING MEASURES HAVE BEEN TAKEN:
   - A. THE COUNTY CORONER HAS BEEN INFORMED AND HAS DETERMINED THAT NO INVESTIGATION OF THE CAUSE OF DEATH IS REQUIRED, AND
   - B. IF THE REMAINS ARE OF NATIVE AMERICAN ORIGIN, THE DESCENDANTS FROM THE DECEASED NATIVE AMERICANS HAVE MADE A RECOMMENDATION FOR THE MEANS OF TREATING OR DISPOSING, WITH APPROPRIATE DIGNITY, OF THE HUMAN REMAINS AND ANY ASSOCIATED GRAVE GOODS.
7. THE LOCATION AND PROTECTION OF ALL UTILITIES IS THE RESPONSIBILITY OF THE PERMITTEE.
8. ALL EXPORT OF MATERIAL FROM THE SITE MUST GO TO A PERMITTED SITE APPROVED BY THE BUILDING OFFICIAL, OR A LEGAL DUMP SITE. RECEIPTS FOR ACCEPTANCE OF EXCESS MATERIAL BY A DUMPSITE ARE REQUIRED AND MUST BE PROVIDED TO THE BUILDING OFFICIAL UPON REQUEST.
9. A COPY OF THE GRADING PERMIT AND APPROVED GRADING PLANS MUST BE IN THE POSSESSION OF A RESPONSIBLE PERSON AND AVAILABLE AT THE SITE AT ALL TIMES.
10. SITE BOUNDARIES, EASEMENTS, DRAINAGE DEVICES, AND RESTRICTED USE AREAS SHALL BE LOCATED PER CONSTRUCTION STAKING BY FIELD ENGINEER OR LICENSED SURVEYOR. PRIOR TO GRADING, AS REQUESTED BY THE BUILDING OFFICIAL, ALL PROPERTY LINES, EASEMENTS, AND RESTRICTED USE AREAS SHALL BE STAKED.
11. NO GRADING OR CONSTRUCTION SHALL OCCUR WITHIN THE PROTECTED ZONE OF ANY OAK TREE AS REQUIRED PER TITLE CHAPTER 22.56 OF THE COUNTY OF LOS ANGELES ZONING CODE. THE PROTECTED ZONE SHALL MEAN THAT AREA WITHIN THE DRIP LINE OF AN OAK TREE EXTENDING THERE FROM A POINT AT LEAST FIVE FEET OUTSIDE THE DRIP LINE, OR 15 FEET FROM THE TRUNK(S) OF A TREE, WHICHEVER IS GREATER.
12. THE STANDARD RETAINING WALL DETAILS SHOWN ON THE GRADING PLANS ARE FOR REFERENCE ONLY. STANDARD RETAINING WALLS ARE NOT CHECKED, PERMITTED, OR INSPECTED PER THE GRADING PERMIT. A SEPARATE RETAINING WALL PERMIT IS REQUIRED FOR ALL STANDARD RETAINING WALLS.
    NOTE: THIS NOTE ONLY APPLIES TO STANDARD RETAINING WALLS. GEOGRID FABRIC AND SEGMENTAL RETAINING WALLS DO NOT REQUIRE A SEPARATE RETAINING WALL PERMIT. DETAILS AND CONSTRUCTION NOTES FOR ALL GEOGRID WALLS MUST BE ON THE GRADING PLAN.
13. A PREVENTIVE PROGRAM TO PROTECT THE SLOPES FROM POTENTIAL DAMAGE FROM BURROWING RODENTS IS REQUIRED PER SECTION J101.8 OF THE COUNTY OF LOS ANGELES BUILDING CODE. OWNER IS TO INSPECT SLOPES PERIODICALLY FOR EVIDENCE OF BURROWING RODENTS AND A FIRST EVIDENCE OF THEIR EXISTENCE SHALL EMPLOY AN EXTERMINATOR FOR THEIR REMOVAL.
14. WHERE A GRADING PERMIT IS ISSUED AND THE BUILDING OFFICIAL DETERMINES THAT THE GRADING WILL NOT BE COMPLETED PRIOR TO NOVEMBER 1, THE OWNER OF THE SITE ON WHICH THE GRADING IS BEING PERFORMED SHALL, ON OR BEFORE OCTOBER 1, FILE OR CAUSE TO BE FILED WITH THE BUILDING OFFICIAL AN ESCP PER SECTION J110.8.3 OF THE COUNTY OF LOS ANGELES BUILDING CODE.
15. TRANSFERRED OF RESPONSIBILITY: IF THE CIVIL ENGINEER, THE SOILS ENGINEER, OR THE ENGINEERING GEOLOGIST OF RECORD IS CHANGED DURING GRADING, THE WORK SHALL BE STOPPED UNTIL THE REPLACEMENT HAS AGREED IN WRITING TO ACCEPT THEIR RESPONSIBILITY WITHIN THE AREA OF TECHNICAL COMPETENCE FOR APPROVAL UPON COMPLETION OF THE WORK. IT SHALL BE THE DUTY OF THE PERMITTEE TO NOTIFY THE BUILDING OFFICIAL IN WRITING OF SUCH CHANGE PRIOR TO THE RECOMMENCEMENT OF SUCH GRADING.

INSPECTION NOTES

16. THE PERMITTEE, OR HIS AGENT, SHALL NOTIFY THE BUILDING OFFICIAL AT LEAST ONE WORKING DAY IN ADVANCE OF REQUIRED INSPECTIONS AT FOLLOWING STAGES OF THE WORK. (SECTION J105.7 OF THE BUILDING CODE)
    A. PRE-GRADE BEFORE THE START OF ANY EARTH DISTURBING ACTIVITY OR CONSTRUCTION.
    B. INITIAL WHEN THE SITE HAS BEEN CLEARED OF VEGETATION AND UNAPPROVED FILL HAS BEEN SCARIFIED, BENCHED, OR OTHERWISE PREPARED FOR FILL. FILL SHALL NOT HAVE BEEN PLACED PRIOR TO THIS INSPECTION.
    NOTE: PRIOR TO ANY CONSTRUCTION ACTIVITIES (INCLUDING GRADING) ALL STORM WATER POLLUTION PREVENTION MEASURES, INCLUDING EROSION CONTROL DEVICES THAT CONTAIN SEDIMENTS, MUST BE INSTALLED.
    C. ROUGH WHEN APPROXIMATE FINAL ELEVATIONS HAVE BEEN ESTABLISHED; DRAINAGE TERRACES, SWALES AND BERMS INSTALLED AT THE TOP OF THE SLOPE; AND THE STATEMENTS REQUIRED IN THIS SECTION HAVE BEEN RECEIVED.
    D. FINAL WHEN GRADING HAS BEEN COMPLETED; ALL DRAINAGE DEVICES INSTALLED; SLOPE PLANTING ESTABLISHED; IRRIGATION SYSTEMS INSTALLED; AND THE AS-BUILT PLANS, REQUIRED STATEMENTS, AND REPORTS HAVE BEEN SUBMITTED AND APPROVED.
17. IN ADDITION TO THE INSPECTION REQUIRED OF THE BUILDING OFFICIAL FOR REGULAR GRADING, REPORTS AND STATEMENTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL IN ACCORDANCE WITH SECTION J105 OF THE COUNTY OF LOS ANGELES BUILDING CODE.
18. UNLESS OTHERWISE DIRECTED BY THE BUILDING OFFICIAL, THE FIELD ENGINEER FOR ALL ENGINEERED GRADING PROJECTS SHALL PREPARE ROUTINE INSPECTION REPORTS AS REQUIRED UNDER SECTION J105.11 OF THE COUNTY OF LOS ANGELES BUILDING CODE. THESE REPORTS, KNOWS AS "REPORT OF GRADING ACTIVITIES", SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AS FOLLOWS:
    1. BI-WEEKLY DURING ALL TIMES WHEN GRADING OF 400 CUBIC YARDS OR MORE PER WEEK IS OCCURRING ON THE SITE;
    2. MONTHLY, AT ALL OTHER TIMES; AND
    3. AT ANY TIME WHEN REQUESTED IN WRITING BY THE BUILDING OFFICIAL.
    SUCH "REPORT OF GRADING ACTIVITIES" SHALL CERTIFY TO THE BUILDING OFFICIAL THAT THE FIELD ENGINEER HAS INSPECTED THE GRADING SITE AND RELATED ACTIVITIES AND HAS FOUND THEM IN COMPLIANCE WITH THE APPROVED GRADING PLANS AND SPECIFICATIONS, THE BUILDING CODE, ALL GRADING PERMIT CONDITIONS, AND ALL OTHER APPLICABLE ORDINANCES AND REQUIREMENTS. THIS FORM IS AVAILABLE AT THE FOLLOWING WEBSITE HTTP://DPW.LACOUNTY.GOV/BSD/DG/DEFAULT.ASPX. "REPORT OF GRADING ACTIVITIES" MAY BE SCANNED AND UPLOADED AT THE WEBSITE OR FAXED TO (626) 430-2295. FAILURE TO PROVIDE REQUIRED INSPECTION REPORTS WILL RESULT IN A "STOP WORK ORDER."
19. ALL GRADED SITES MUST HAVE DRAINAGE SWALES, BERMS, AND OTHER DRAINAGE DEVICES INSTALLED PRIOR TO ROUGH GRADING APPROVAL PER SECTION J105.7 OF THE COUNTY OF LOS ANGELES BUILDING CODE.
20. THE GRADING CONTRACTOR SHALL SUBMIT THE STATEMENT TO THE GRADING INSPECTOR AS REQUIRED BY SECTION J105.12 OF THE COUNTY OF LOS ANGELES BUILDING CODE AT THE COMPLETION OF ROUGH GRADING.
21. FINAL GRADING MUST BE APPROVED BEFORE OCCUPANCY OF BUILDINGS WILL BE ALLOWED PER SECTION J105 OF THE COUNTY OF LOS ANGELES BUILDING CODE.

DRAINAGE NOTES:

22. ROOF DRAINAGE MUST BE DIVERTED FROM GRADED SLOPES.
23. PROVISIONS SHALL BE MADE FOR CONTRIBUTORY DRAINAGE AT ALL TIMES.
24. ALL CONSTRUCTION AND GRADING WITHIN A STORM DRAIN EASEMENT ARE TO BE DONE PER PRIVATE DRAIN PD NO. N/A OR MISCELLANEOUS TRANSFER DRAIN MTD NO. N/A.
25. ALL STORM DRAIN WORK IS TO BE DONE UNDER CONTINUOUS INSPECTION BY THE FIELD ENGINEER. STATUS REPORTS REQUIRED UNDER NOTE 18 AND SECTION J105.11 OF THE COUNTY OF LOS ANGELES BUILDING CODE SHALL INCLUDE INSPECTION INFORMATION AND REPORTS ON THE STORM DRAIN INSTALLATION.

AGENCY NOTES:

26. AN ENCROACHMENT PERMIT FROM LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS IS REQUIRED FOR ALL WORK WITHIN OR AFFECTING ROAD RIGHT OF WAY. ALL WORK WITHIN ROAD RIGHT OF WAY SHALL CONFORM TO LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS ENCROACHMENT PERMIT.
27. ALL CONSTRUCTION/DEMOLITION, GRADING, AND STORAGE OF BULK MATERIALS MUST COMPLY WITH THE LOCAL AQMD RULE 403 FOR FUGITIVE DUST. INFORMATION ON RULE 403 IS AVAILABLE AT AQMD'S WEBSITE HTTP://WWW.AVAQMD.CA.GOV.

CALL 811
AT LEAST TWO DAYS BEFORE YOU DIG
Know what's below. Call before you dig.
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

GENERAL GEOTECHNICAL NOTES:

28. ALL WORK MUST BE IN COMPLIANCE WITH THE RECOMMENDATIONS INCLUDED IN THE GEOTECHNICAL CONSULTANTS REPORT(S) AND THE APPROVED GRADING PLANS AND SPECIFICATIONS.
29. GRADING OPERATIONS MUST BE CONDUCTED UNDER PERIODIC INSPECTIONS BY THE GEOTECHNICAL CONSULTANTS WITH QUARTERLY INSPECTION REPORTS TO BE SUBMITTED TO THE GEOLOGY AND SOILS SECTION. (900 S. FREMONT, ALHAMBRA, CA 91803 – 3RD FLOOR)
30. THE SOIL ENGINEER SHALL PROVIDE SUFFICIENT INSPECTIONS DURING THE PREPARATION OF THE NATURAL GROUND AND THE PLACEMENT AND COMPACTION OF THE FILL TO BE SATISFIED THAT THE WORK IS BEING PERFORMED IN ACCORDANCE WITH THE PLAN AND APPLICABLE CODE REQUIREMENTS.
31. ROUGH GRADING MUST BE APPROVED BY A FINAL ENGINEERING GEOLOGY AND SOILS ENGINEERING REPORT. AN AS-BUILT GEOLOGIC MAP MUST BE INCLUDED IN THE FINAL GEOLOGY REPORT. PROVIDE A FINAL REPORT STATEMENT THAT VERIFIES WORK WAS DONE IN ACCORDANCE WITH REPORT RECOMMENDATIONS AND CODE PROVISIONS (SECTION J105.12 OF THE COUNTY OF LOS ANGELES BUILDING CODE). THE FINAL REPORT(S) MUST BE SUBMITTED TO THE GEOTECHNICAL AND MATERIAL ENGINEERING DIVISION FOR REVIEW AND APPROVAL.
32. FOUNDATION, WALL AND POOL EXCAVATIONS MUST BE INSPECTED AND APPROVED BY THE CONSULTING GEOLOGIST AND SOIL ENGINEER PRIOR TO THE PLACING OF STEEL OR CONCRETE.
33. BUILDING PADS LOCATED IN CUT/FILL TRANSITION AREAS SHALL BE OVER-EXCAVATED AS DEFINED IN "BACKFILL DETAIL" ON SHEET 4. (1)

SOIL FILL NOTES (SEE SHEETS 4 AND 5 OF 7 FOR NOTES ON REMEDIAL GRADING AND INERT DEBRIS FILL):

34. ALL FILL SHALL BE COMPACTED TO THE FOLLOWING MINIMUM RELATIVE COMPACTION CRITERIA:
    A. 90 PERCENT OF MAXIMUM DRY DENSITY WITHIN 40 FEET BELOW FINISH GRADE.
    B. 93 PERCENT OF MAXIMUM DRY DENSITY DEEPER THAN 40 FEET BELOW FINISH GRADE, UNLESS A LOWER RELATIVE COMPACTION (NOT LESS THAN 90 PERCENT OF MAXIMUM DRY DENSITY) IS JUSTIFIED BY THE GEOTECHNICAL ENGINEER.
    THE RELATIVE COMPACTION SHALL BE DETERMINED BY A.S.T.M. SOIL COMPACTION TEST D1557-91 WHERE APPLICABLE. WHERE NOT APPLICABLE, A TEST ACCEPTABLE TO THE BUILDING OFFICIAL SHALL BE USED. (SECTION J107.5 OF THE COUNTY OF LOS ANGELES BUILDING CODE)
35. FIELD DENSITY SHALL BE DETERMINED BY A METHOD ACCEPTABLE TO THE BUILDING OFFICIAL. (SECTION J107.5 OF THE COUNTY OF LOS ANGELES BUILDING CODE) HOWEVER, NOT LESS THAN 10% OF THE REQUIRED DENSITY TEST, UNIFORMLY DISTRIBUTED, SHALL BE OBTAINED BY THE SAND CONE METHOD.
36. SUFFICIENT TESTS OF THE FILL SOILS SHALL BE MADE TO DETERMINE THE RELATIVE COMPACTION OF THE FILL IN ACCORDANCE WITH THE FOLLOWING MINIMUM GUIDELINES:
    A. ONE TEST FOR EACH TWO-FOOT VERTICAL LIFT.
    B. ONE TEST FOR EACH 1,000 CUBIC YARDS OF MATERIAL PLACED.
    C. ONE TEST AT THE LOCATION OF THE FINAL FILL SLOPE FOR EACH BUILDING SITE (LOT) IN EACH FOUR-FOOT VERTICAL LIFT OR POSITION THEREOF.
    D. ONE TEST IN THE VICINITY OF EACH BUILDING PAD FOR EACH FOUR-FOOT VERTICAL LIFT OR PORTION THEREOF.
37. SUFFICIENT TESTS OF FILL SOILS SHALL BE MADE TO VERIFY THAT THE SOIL PROPERTIES COMPLY WITH THE DESIGN REQUIREMENTS, AS DETERMINED BY THE SOIL ENGINEER INCLUDING SOIL TYPES, SHEAR STRENGTHS PARAMETERS AND CORRESPONDING UNIT WEIGHTS IN ACCORDANCE WITH THE FOLLOWING GUIDELINES:
    A. PRIOR AND SUBSEQUENT TO PLACEMENT OF THE FILL, SHEAR TESTS SHALL BE TAKEN ON EACH TYPE OF SOIL OR SOIL MIXTURE TO BE USED FOR ALL FILL SLOPES STEEPER THAN THREE (3) HORIZONTAL TO ONE VERTICAL.
    B. SHEAR TEST RESULTS FOR THE PROPOSED FILL MATERIAL MUST MEET, OR EXCEED, THE DESIGN VALUES USED IN THE GEOTECHNICAL REPORT TO DETERMINE SLOPE STABILITY REQUIREMENTS. OTHERWISE, THE SLOPE MUST BE REEVALUATED USING THE ACTUAL SHEET TEST VALUE OF THE FILL MATERIAL THAT IS IN PLACE.
    C. FILL SOILS SHALL BE FREE OF DELETERIOUS MATERIALS.
38. FILL SHALL NOT BE PLACED UNTIL STRIPPING OF VEGETATION, REMOVAL OF UNSUITABLE SOILS, AND INSTALLATION OF SUBDRAIN (IF ANY) HAVE BEEN INSPECTED AND APPROVED BY THE SOIL ENGINEER. THE BUILDING OFFICIAL MAY REQUIRE A "STANDARD TEST METHOD FOR MOISTURE, ASH, ORGANIC MATTER, PEAT, OR OTHER ORGANIC SOILS" ASTM D-2974-87 ON ANY SUSPECT MATERIAL. DETRIMENTAL AMOUNTS OF ORGANIC MATERIAL SHALL NOT BE PERMITTED IN FILLS. SOIL CONTAINING SMALL AMOUNTS OF ROOTS MAY BE ALLOWED PROVIDED THAT THE ROOTS ARE IN A QUANTITY AND DISTRIBUTED IN A MANNER THAT WILL NOT BE DETRIMENTAL TO THE FUTURE USE OF THE SITE AND THE SOILS ENGINEER APPROVES THE USE OF SUCH MATERIAL.
39. ROCK OR SIMILAR MATERIAL GREATER THAN 12 INCHES IN DIAMETER, SHALL NOT BE PLACED IN THE FILL UNLESS RECOMMENDATIONS FOR SUCH PLACEMENT HAVE BEEN SUBMITTED BY THE SOIL ENGINEER AND APPROVED IN ADVANCE BY THE BUILDING OFFICIAL. LOCATION, EXTENT, AND ELEVATION OF ROCK DISPOSAL AREAS MUST BE SHOWN ON AS "AS-BUILT" GRADING PLAN.
40. CONTINUOUS INSPECTION BY THE SOIL ENGINEER, OR A RESPONSIBLE REPRESENTATIVE, SHALL BE PROVIDED DURING ALL FILL PLACEMENT AND COMPACTION OPERATIONS WHERE FILLS HAVE A DEPTH GREATER THAN 30 FEET OR SLOPE SURFACE STEEPER THAN 2:1, (SECTION J107.8 OF THE COUNTY OF LOS ANGELES BUILDING CODE)
41. CONTINUOUS INSPECTION BY THE SOIL ENGINEER, OR A RESPONSIBLE REPRESENTATIVE, SHALL BE PROVIDED DURING ALL SUBDRAIN INSTALLATION. (SECTION J107.2 OF THE COUNTY OF LOS ANGELES BUILDING CODE)
42. ALL SUBDRAIN OUTLETS ARE TO BE SURVEYED FOR LINE AND ELEVATION. SUBDRAIN INFORMATION MUST BE SHOWN ON AN "AS-BUILT" GRADING PLAN.
43. FILL SLOPES IN EXCESS OF 2:1 STEEPNESS RATIO ARE TO BE CONSTRUCTED BY THE PLACEMENT OF SOIL AT SUFFICIENT DISTANCE BEYOND THE PROPOSED FINISH SLOPE TO ALLOW COMPACTION EQUIPMENT TO BE OPERATED AT THE OUTER LIMITS OF THE FINAL SLOPE SURFACE. THE EXCESS FILL IS TO BE REMOVED PRIOR TO COMPLETION OF ROUGH GRADING. OTHER CONSTRUCTION PROCEDURES MAY BE USED WHEN IT IS DEMONSTRATED TO THE SATISFACTION OF THE BUILDING OFFICIAL THAT THE ANGLE OF SLOPE, CONSTRUCTION METHOD, AND OTHER FACTORS WILL HAVE EQUIVALENT EFFECT. (SECTION J107.5 OF THE COUNTY OF LOS ANGELES BUILDING CODE)

PLANTING AND IRRIGATION NOTES:

44. PLANTING AND IRRIGATION ON GRADED SLOPES MUST COMPLY WITH THE FOLLOWING MINIMUM GUIDELINES:
    A. THE SURFACE OF ALL CUT SLOPES MORE THAN 5 FEET IN HEIGHT AND FILL SLOPES MORE THAN 3 FEET IN HEIGHT SHALL BE PROTECTED AGAINST DAMAGE BY EROSION BY PLANTING WITH GRASS OR GROUND COVER PLANTS. SLOPES EXCEEDING 15 FEET IN VERTICAL HEIGHT SHALL ALSO BE PLANTED WITH SHRUBS, SPACED AT NOT TO EXCEED 10 FEET ON CENTERS; OR TREES, SPACED AT NOT TO EXCEED 20 FEET ON CENTERS, OR A COMBINATION OF SHRUBS AND TREES AT EQUIVALENT SPACING, IN ADDITION TO THE GRASS OR GROUND COVER PLANTS.THE PLANTS SELECTED AND PLANTING METHODS USED SHALL BE SUITABLE FOR THE SOIL AND CLIMATIC CONDITIONS OF THE SITE. PLANT MATERIAL SHALL BE SELECTED WHICH WILL PRODUCE A COVERAGE OF PERMANENT PLANTING EFFECTIVELY CONTROLLING EROSION. CONSIDERATION SHALL BE GIVEN TO DEEP-ROOTED PLANTING MATERIAL NEEDING LIMITED WATERING, MAINTENANCE, HIGH ROOT TO SHOOT RATIO, WIND SUSCEPTIBILITY AND FIRE-RETARDANT CHARACTERISTICS. ALL PLANT MATERIALS MUST BE APPROVED BY THE BUILDING OFFICIAL. (SECTION J110.3 OF THE COUNTY OF LOS ANGELES BUILDING CODE).

    NOTE: PLANTING MAY BE MODIFIED FOR THE SITE IF SPECIFIC RECOMMENDATIONS ARE PROVIDED BY BOTH THE SOILS ENGINEER AND A LANDSCAPE ARCHITECT. SPECIFIC RECOMMENDATIONS MUST CONSIDER SOILS AND CLIMATIC CONDITIONS, IRRIGATION REQUIREMENTS, PLANTING METHODS, FIRE RETARDANT CHARACTERISTICS, WATER EFFICIENCY, MAINTENANCE NEEDS, AND OTHER REGULATORY REQUIREMENTS. RECOMMENDATIONS MUST INCLUDE A FINDING THAT THE ALTERNATIVE PLANTING WILL PROVIDE A PERMANENT AND EFFECTIVE METHOD OF EROSION CONTROL. MODIFICATIONS TO PLANTING MUST BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO INSTALLATION.

    B. SLOPES REQUIRED TO BE PLANTED BY SECTION J110.3 SHALL BE PROVIDED WITH AN APPROVED SYSTEM OF IRRIGATION THAT IS DESIGNED TO COVER ALL PORTIONS OF THE SLOPE. IRRIGATION SYSTEM PLANS SHALL BE SUBMITTED AND APPROVED PRIOR TO INSTALLATION. A FUNCTIONAL TEST OF THE SYSTEM MAY BE REQUIRED. FOR SLOPES LESS THAN 20 FEET IN VERTICAL HEIGHT, HOSE BIBS TO PERMIT HAND WATERING WILL BE ACCEPTABLE IF SUCH HOSE BIBS ARE INSTALLED AT CONVENIENTLY ACCESSIBLE LOCATIONS WHERE A HOSE NO LONGER THAN 50 FEET IS NECESSARY FOR IRRIGATION. THE REQUIREMENTS FOR PERMANENT IRRIGATION SYSTEMS MAY BE MODIFIED UPON SPECIFIC RECOMMENDATIONS OF A LANDSCAPE ARCHITECT OR EQUIVALENT AUTHORITY THAT, BECAUSE OF THE TYPE OF PLANTS SELECTED, THE PANTING METHODS USED AND THE SOIL AND CLIMATIC CONDITIONS AT THE SITE, IRRIGATION WILL NOT BE NECESSARY FOR THE MAINTENANCE OF THE SLOPE PLANTING. (SECTION J110.4 OF THE COUNTY OF LOS ANGELES BUILDING CODE)

    C. OTHER GOVERNMENTAL AGENCIES MAY HAVE ADDITIONAL REQUIREMENTS FOR LANDSCAPING AND IRRIGATION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE WITH OTHER AGENCIES TO MEET THEIR REQUIREMENTS WHILE MAINTAINING COMPLIANCE WITH THE COUNTY OF LOS ANGELES BUILDING CODE.
45. THE PLANTING AND IRRIGATION SYSTEMS SHALL BE INSTALLED AS SOON AS PRACTICAL AFTER ROUGH GRADING. PRIOR TO FINAL GRADING APPROVAL ALL REQUIRED SLOPE PLANTING MUST BE WELL ESTABLISHED. (SECTION J110.7 OF THE COUNTY OF LOS ANGELES BUILDING CODE)
46. LANDSCAPE IRRIGATION SYSTEM SHALL BE DESIGNED AND MAINTAINED TO PREVENT SPRAY ON STRUCTURES. (TITLE 31, SECTION 5.407.2.1)
47. PRIOR TO ROUGH GRADE APPROVAL THIS PROJECT REQUIRES A LANDSCAPE PERMIT. LANDSCAPE PLANS IN COMPLIANCE WITH THE "MODEL WATER EFFICIENT LANDSCAPE ORDINANCE" TITLE 23, CHAPTER 2.7 OF CALIFORNIA CODE OF REGULATIONS (AB 1881) MUST BE SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS, LAND DEVELOPMENT DIVISION. (900 S. FREMONT AVE, ALHAMBRA – 3RD FLOOR, CA 91803 (626) 458-4921) TO OBTAIN LANDSCAPE PERMIT APPROVED PLANS AND WATER PURVEYOR ACKNOWLEDGEMENT FORM MUST BE SUBMITTED TO THE LOCAL BUILDING AND SAFETY OFFICE.

NOTICE TO CONTRACTOR:

CONTRACTOR AGREES THAT HE SHALL 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 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 THE ENGINEER.

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN, AND ANY OTHER LINES OR STRUCTURES NOT SHOWN ON THESE PLANS AND IS RESPONSIBLE FOR THE PROTECTION OF OR ANY DAMAGE TO THESE LINES OR STRUCTURES.

CONTRACTOR'S RESPONSIBILITY

THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN ON THESE DRAWINGS. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN OR NOT SHOWN ON THESE DRAWINGS.

THE CONTRACTOR AGREES THAT HE SHALL 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 CONTINUOUS AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

OWNER:

IRWINDALE PARTNERS, L.P.
11021 WINNERS CIRCLE, SUITE 200
LOS ALAMITOS, CA 90720
ATTN: JOANNA BAKER
(562) 322-8556

CONSTRUCTION SCHEDULE:

CONSTRUCTION BEGIN DATE:	JULY 2016
CONSTRUCTION END DATE:	JULY 2026

CIVIL ENGINEER: (1)

D&D ENGINEERING, INC.
8901 S LA CIENEGA BLVD, SUITE 106
INGLEWOOD, CA 90301
ATTN: HENRIK NAZARIAN
(424) 351-6800

SOILS ENGINEER:

HD GEOSOLUTIONS, INC
9300 OSO AVENUE, UNIT A
CHATSWORTH. CA 91311
ATTN: BRIAN SKYERS
(818) 357-5845

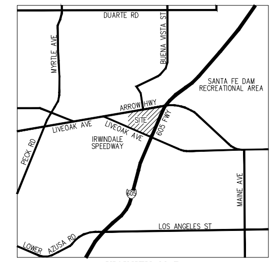
BASIS OF BEARINGS:

THE BEARING OF N 79°59'20" E FOR THE CENTERLINE OF ARROW HIGHWAY AS SHOWN ON RECORD OF SURVEY RECORDED IN BOOK 111, PAGES 25 TO 28 INCLUSIVE, IN THE OFFICE OF COUNTY RECORDER OF LOS ANGELES COUNTY, WAS USED AS THE BASIS OF BEARINGS FOR THIS SURVEY.

BENCHMARK:

ELEVATIONS SHOWN HEREON ARE IN FEET AND ARE BASED ON BM= G 5499
EL= (398.115) NAVD88 COVINA 2005 YEAR LEVELED (BM IS LOCATED 1' EAST OF BCR AT NE CORNER OF ARROW HWY AND AVENIDA BARBOSA)

BUILDING AND SAFETY DIVISION
Department of Public Works
DRAINAGE & GRADING APPROVED
UNDER LOS ANGELES COUNTY CODE
TITLE 26
EAGUIRRE
PUBLIC WORKS
07/10/2020 2:50:42 PM
This set of plans and specifications must be kept at the job site at all times, and it is unlawful to make any changes, modifications or alterations to these plans or specifications without the prior written permission of the Building Official. The stamping of this set of plans and specifications SHALL NOT, under any circumstances, be deemed to permit or to be an approval of any work or activity that violates any provisions of any County Ordinance or State Law



VICINITY MAP
NTS

GENERAL INFORMATION (1)

GRADING PERMIT APPLICATION NO.:	GR1504220003
EARTHWORK VOLUMES:	RAW CUT: 1,180,000 CY, RAW FILL: 2,290,000 CY OVEREXCAVATION: 0 CY EXPORT: 0 CY EXPORT LOCATION: 0 CY
TOTAL DISTURBED AREA:	78.3 ACRES
TOTAL PROPOSED LANDSCAPE AREA:	0 SF
TOTAL TURF AREA:	0% (PERCENT OF TOTAL PROPOSED LANDSCAPING)
TOTAL DROUGHT TOLERANT LANDSCAPING AREA	0% (PERCENT OF TOTAL PROPOSED LANDSCAPING)
PRE-DEVELOPMENT IMPERVIOUS AREA	1.54 ACRES
POST-DEVELOPMENT IMPERVIOUS AREA	0.34 ACRES
WASTE DISCHARGE IDENTIFICATION NUMBER (WDID#)	4 19C376714
CONSTRUCTION & DEMOLITION DEBRIS RECYCLING AND REUSE PLAN (RPP ID)	______

BEST MANAGEMENT PRACTICE (BMP) NOTES:

1. EVERY EFFORT SHOULD BE MADE TO ELIMINATE THE DISCHARGE OF NON STORM WATER FROM THE PROJECT SITE AT ALL TIMES.
2. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON-SITE AND MAY BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.
3. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
4. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
5. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON-SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
6. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
7. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
8. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
9. AS THE PROJECT OWNER OR AUTHORIZED AGENT OF THE OWNER, I HAVE READ AND UNDERSTAND THE REQUIREMENTS LISTED ABOVE, NECESSARY TO CONTROL STORM WATER POLLUTION FROM SEDIMENTS, EROSION, AND CONSTRUCTION MATERIALS, AND I CERTIFY THAT I WILL COMPLY WITH THESE REQUIREMENTS.

PRINT NAME Jeffrey Yellen
SIGNATURE Jeffrey Yellen DATE 6/26/2020

NOTES:

A STATEMENT WILL BE SIGNED BY THE OWNER, ACKNOWLEDGING THAT A FIELD ENGINEER, SOILS ENGINEER AND ENGINEERING GEOLOGIST, WHEN APPROPRIATE, WILL BE EMPLOYED TO PERFORM THE SERVICES REQUIRED BY THIS CODE, WHEN THE BUILDING OFFICIAL REQUIRES THAT SUCH PROFESSIONAL PERSONS BE SO EMPLOYED. THESE ACKNOWLEDGMENTS SHALL BE ON A FORM FURNISHED BY THE BUILDING OFFICIAL.

THESE PLANS ARE FOR THE PURPOSE OF OBTAINING A PERMIT TO PERFORM ROUGH GRADING. NO BUILDINGS OR STRUCTURES WILL BE CONSTRUCTED AT THIS TIME. THE FINISHED GROUND SURFACE AND SLOPE WILL BE HYDROSEEDED TO PREVENT EROSION AND DUST

THE EXISTING PERIMETER FENCE SURROUNDING THE SITE IS TO REMAIN IN PLACE DURING AND AFTER THE COMPLETION OF CONSTRUCTION.

ALL DRAINAGE DEVICES MUST BE VISUALLY INSPECTED AND DEBRIS REMOVED QUARTERLY OR PER MANUFACTURER'S STANDARDS.

DRAINAGE BASINS MUST BE VISUALLY INSPECTED AND DEBRIS REMOVED MONTHLY. BASINS MUST BE DRAINED WITHIN 48 HOURS OF A RAIN EVENT

INFILTRATION TESTS –
PRIOR TO FINAL ACCEPTANCE AND APPROVAL OF ROUGH GRADING, OWNER SHALL PERFORM IN-SITU INFILTRATION TESTS TO AFFIRM THE INFILTRATION RATE FOR THE PROPOSED BASIN LOCATED AT THE SOUTHEAST CORNER OF THE PROJECT SITE. TEST PROTOCOL AND RESULTS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY LA COUNTY GEOTECHNICAL AND MATERIALS ENGINEERING DIVISION (GMED).

PRIVATE/UTILITY EASEMENT NOTE:

AS CIVIL ENGINEER/LAND SURVEYOR OF THIS PROJECT, I HAVE IDENTIFIED THE LOCATION OF KNOWN EASEMENTS WHICH ARE DEPICTED ON THESE PLANS. I HAVE REVIEWED THE PROPOSED EASEMENT DOCUMENTS AND VERIFIED THE PROPOSED CONSTRUCTION DOES NOT CONFLICT OR INTERFERE WITH THE INTENDED EASEMENT USE.

CIVIL ENGINEER/LAND SURVEYOR — 06/25/2020 DATE

ENGINEER'S/SURVEYOR'S STATEMENT REGARDING THE PRESENCE OF MONUMENTS WITHIN PROJECT LIMITS

I HEREBY ATTEST THAT I HAVE LOCATED AND REFERENCED ON THESE PLANS THE MONUMENTS EXISTING PRIOR TO CONSTRUCTION TO ENSURE PERPETUATION OF THEIR LOCATION IN ACCORDANCE WITH SECTION 8771 OF THE BUSINESS AND PROFESSIONS CODE. I FURTHER ATTEST THAT I HAVE PERFORMED A RECORD SEARCH AND FIELD INSPECTION TO IDENTIFY EXISTING MONUMENTS; SHALL SET SUFFICIENT CONTROLLING, WITNESS, AND PERMANENT MONUMENTS; AND SHALL FILE THE REQUISITE CORNER RECORD OR RECORD OF SURVEY OF THE REFERENCES WITH THE COUNTY SURVEYOR.

ENGINEER/SURVEYOR SEAL & SIGNATURE — 06/25/2020 DATE

SOILS ENGINEER / GEOLOGIST REVIEW (1)

PLANS HAVE BEEN REVIEWED FOR CONFORMANCE TO GEOTECHNICAL INVESTIGATION REPORT FOR SAID PROJECT, PREPARED BY: HD GEOSOLUTIONS, INC. DATED 04/09/2020.

NAME: BRIAN SKYERS NO. GE 2627 — 06/25/2020 DATE
HD GEOSOLUTIONS, INC.

PROPERTY INFORMATION

PROPERTY ADDRESS:	1270 ARROW HIGHWAY, IRWINDALE, CA
PROPERTY OWNER:	IRWINDALE PARTNERS, L.P. ATTN: JOANNA BAKER
ASSESSORS ID NUMBER(S)	8532-001-002, 8532-001-004

ZONING, REGIONAL PLANNING, AND OTHER AGENCY INFORMATION

PROPERTY ZONING:	INDUSTRIAL
INTENDED LAND USE:	COMMERCIAL/RETAIL

SHEET INDEX	
1	TITLE SHEET & GENERAL NOTES
2	ROUGH GRADING PLAN – OPTION A (OMITTED)
3	ROUGH GRADING PLAN – OPTION B (OMITTED)
3A	ROUGH GRADING PLAN
4	REMEDIAL GRADING PLAN (2014 TOPO.) DEBRIS REMOVAL ON OPEN PITS
5	GRADING DETAILS
6	EROSION CONTROL PLAN – OPTION A (OMITTED)
7	EROSION CONTROL PLAN – OPTION B (OMITTED)
7A	EROSION CONTROL PLAN

LEGEND OF ABBREVIATIONS AND SYMBOLS

AC	ASPHALT CONCRETE
ADJ.	ADJACENT
BLDG	BUILDING
BW	BACK OF WALK
CONC	CONCRETE
DWY	DRIVEWAY
EG	EXISTING GRADE
EX	EXISTING
FG	FINISH GRADE
FL	FLOWLINE
FS	FINISH SURFACE
NAP	NOT A PART
PP	POWER POLE
PROP	PROPOSED
TC	TOP OF CURB
TG	TOP OF GRATE
TYP	TYPICAL
WWF	WELDED WIRE FABRIC

STREET CENTERLINE
RIGHT-OF-WAY/PROPERTY LINE
GRAVEL BAGS
CONSTRUCTION ENTRANCE
RIP-RAP
EXIST. CHAINLINK FENCE
EXISTING CONTOURS (100)
PROPOSED CONTOUR 100
PROP STORM DRAIN D
SETTLEMENT MONUMENT

REVISION BLOCK

REV#	RECORD RCE APPR	DATE	DESCRIPTION	CITY ENGINEER APPR	DATE
1			ROUGH GRADING REVISIONS		

D & D ENGINEERING, INC.
8901 S. LA CIENEGA BLVD, SUITE 106
INGLEWOOD, CA 90301
Phone: 424-393-4122

PREPARED UNDER THE SUPERVISION OF:
HENRIK NAZARIAN, P.E. R.C.E. 59589 — 06/25/2020 DATE

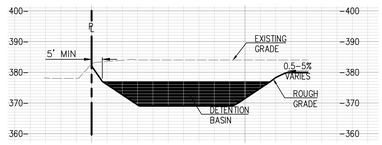
Designed by:	Drawn by:	Checked by:
GTC	GTC	HN

CITY OF IRWINDALE
COUNTY OF LOS ANGELES

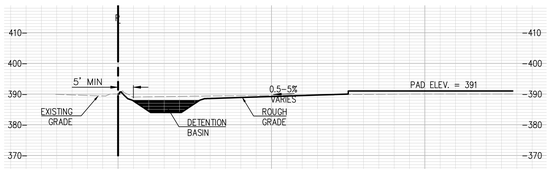
NUWAY-ARROW PIT
TITLE SHEET & GENERAL NOTES

DATE: 6/24/2020
SHEET 1 OF 5

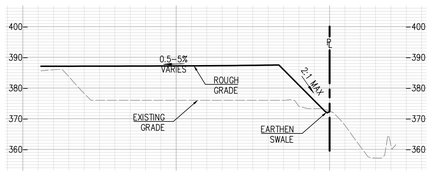
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Last Opened: Jun 24, 2020 – 5:47pm by: Gilbert Tercero



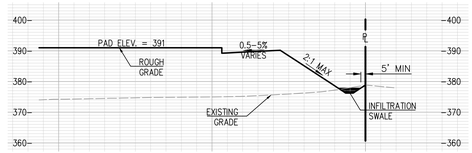
SECTION A
H: 1"=40' | V: 1"=20'



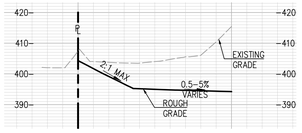
SECTION B
H: 1"=40' | V: 1"=20'



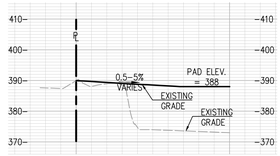
SECTION C
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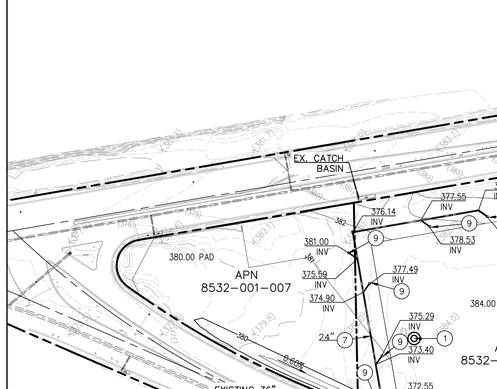
SECTION D
H: 1"=40' | V: 1"=20'



SECTION E
H: 1"=40' | V: 1"=20'



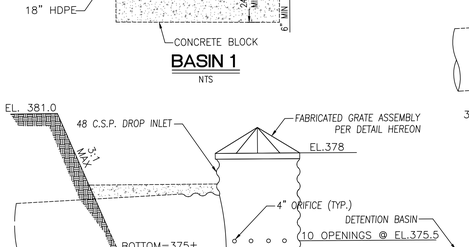
SECTION F
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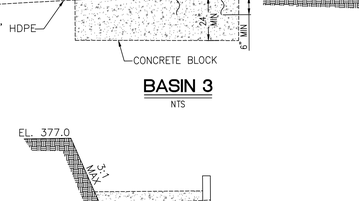
BASIN 1
NTS



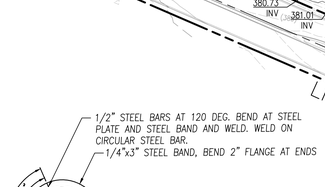
BASIN 3
NTS



BASIN 2
NTS



BASIN 4
NTS



FABRICATED GRATE ASSEMBLY DETAIL
NOT TO SCALE

CONSTRUCTION NOTES

1. SETTLEMENT MONUMENT. REFER TO SHEET 5 FOR DETAIL
2. OUTLET STRUCTURE PER BASIN 4 DETAIL HEREON.
3. CONNECTION TO EXISTING STORM DRAIN PER SPPWC STD DWG 308-2
4. STANDPIPE OUTLET STRUCTURE. REFER TO BASIN DETAILS HEREON.
5. CURB OPENING CATCH BASIN PER SPPWC STD DWG 300-3
6. 24"X24" DRAIN INLET WITH TRAFFIC RATED GRATE
7. HDPE STORM DRAIN PIPE. ADS N-12 WT OR EQUIVALENT. SIZE AND SLOPE PER PLAN.
8. INSTALL ADS FLARED END SECTION OR EQUIVALENT AND GROUTED RIP RAP PAD 6" 100 LB, 12" THICK WITH 4.5' CUT OFF WALL.
9. 36"x36" BRAIN INLET WITH TRAFFIC RATED GRADE

NOTE:
THE STRUCTURAL SETBACK ZONE SHALL BE ELIMINATED IN ACCORDANCE WITH THE RECOMMENDATIONS PROVIDED IN THE REPORT PREPARED BY HD GEOSOLUTIONS, INC.: "PROPOSED ELIMINATION OF STRUCTURAL SETBACK ZONES ARROW PIT INERT DEBRIS ENGINEERED FILL OPERATION – THE PARK AT LIVE OAK, 1220 – 1270 ARROW HIGHWAY, IRWINDALE, CALIFORNIA, HDGI PROJECT NO. 70917" DATED 05-01-2019, AND IN ACCORDANCE TO A RESPONSE TO COMMENTS LETTER DATED 07/10/2019. THOSE COMMENTS ARE ADDRESSED WITH THE ILLUSTRATIONS PROVIDED IN SHEET 4.

NOTE:
Settlement Monument – Device used to measure settlement of soils over time

BUILDING AND SAFETY DIVISION
Department of Public Works
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07/10/2020 2:50:42 PM
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811 Know what's below. Call before you dig.
CALL 811
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

REV#	RECORD RCE APPR	DATE	REVISION BLOCK DESCRIPTION	CITY ENGINEER APPR	DATE
1			ROUGH GRADING REVISIONS		

D & D ENGINEERING, INC.
8901 S. LA CIENEGA BLVD, SUITE 106
INGLEWOOD, CA 90301
Phone: 424-393-4122

PREPARED UNDER THE SUPERVISION OF:
HENRIK NAZARIAN, P.E. R.C.E. 59589 — DATE 6/25/2020
Designed by: GTC | Drawn by: GTC | Checked by: HN

CITY OF IRWINDALE
COUNTY OF LOS ANGELES

NUWAY-ARROW PIT
ROUGH GRADING PLAN

DATE: 6/24/2020
SHEET 3A
OF 5

Drawing Name: M:\17015\Eng\17015-30\17015-30V1\Final Plots\ROUGH GRADING\3A SHEET 3A.dwg
Last Opened: Jun 24, 2020 - 2:48pm by: Daniel Tercero

ARROW HWY.

605 FWY

LIVE OAK AVE.

TOP OF SLOPE

REMEDIAL EXCAVATION/ BACKFILL PER DETAIL HEREON

1:1 SLOPE

1.5:1 SLOPE

REMEDIAL GRADING LIMIT DEPTH 85' BELOW FINISH GRADE (OVER EX AND RECOMPACTION)

ZONE A

ZONE B

"West Pit" 1S

"Central Site Area" 2S

"Southeast Pit" 3S

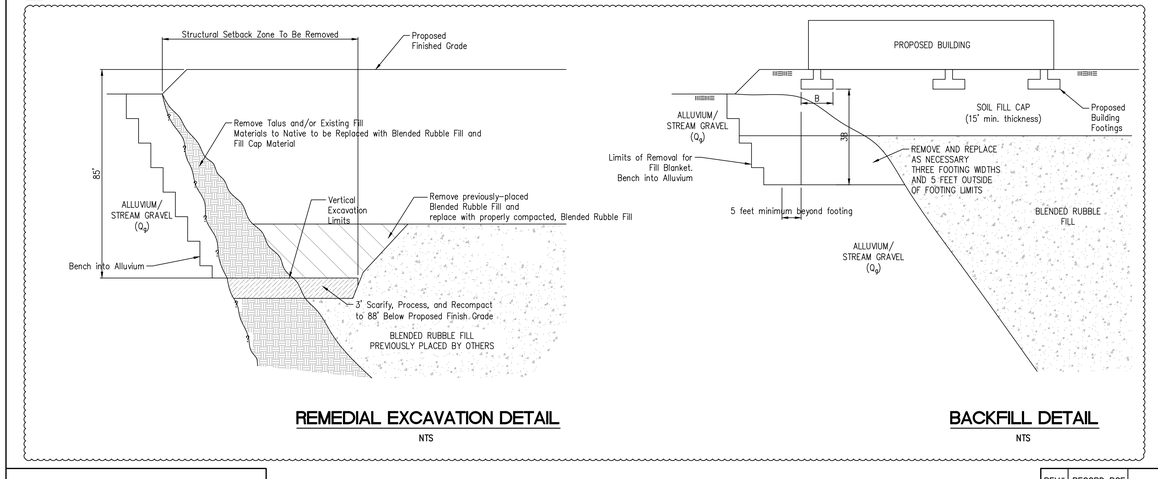
"Surcharge Stockpile" 3N

Approx. Limits of Zone A

DAYLIGHT

SM 303
SM 304
SM 305
SM 306
SM 307
SM 308
SM 309
SM 310
SM 311
SM 312
SM 313
SM 314
SM 315
SM 316
SM 317
SM 318
SM 319
SM 320
SM 321
SM 322
SM 323
SM 324
SM 325
SM 326
SM 327
SM 300
SM 301
SM 302

1N
2N
3N
1S
2S
3S
E
G
F
B
A
C
D



REMEDIAL EXCAVATION DETAIL

NTS

BACKFILL DETAIL

NTS

NOTE:

SETBACK ZONES IN WHICH OVEREXCAVATION AND RECOMPACTION ARE NOT YET COMPLETE ARE STILL DEPICTED AS SETBACK ZONES. AT THIS TIME, REMEDIATION AND ELIMINATION OF ALL SETBACK ZONES IS PLANNED.

LEGEND:

- H — Settlement Monument Cluster Designation
- SM 328 ◆ — Settlement Monument Location and Number
- 3S — Site Partition Designation by HDGI
- Approximate Limits of Setback Zone (Reference: Grading Plan by H&F, 2010)
- Approximate Limits of Setback Zone that have undergone Removal and Recompaction (Reference: Grading Plan by H&F, 2010)
- SB-2 — Sonic Boring Location and Number (Drilled September 2018)

N

100 0 100 200
scale 1" = 100' feet

BUILDING AND SAFETY DIVISION
Department of Public Works
DRAINAGE & GRADING APPROVED
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1			ROUGH GRADING REVISIONS		

HENRIK NAZARIAN, No. 59589, REGISTERED PROFESSIONAL ENGINEER, CIVIL, STATE OF CALIFORNIA

D & D ENGINEERING, INC.
8901 S. LA CIENEGA BLVD, SUITE 106
INGLEWOOD, CA 90301
Phone: 424-393-4122

PREPARED UNDER THE SUPERVISION OF:
HENRIK NAZARIAN, P.E. R.C.E. 59589 — 6/25/2020 DATE

Designed by: GTC | Drawn by: GTC | Checked by: HN

CITY OF IRWINDALE
COUNTY OF LOS ANGELES

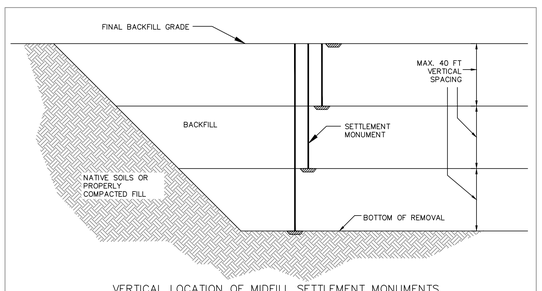
NUWAY-ARROW PIT
REMEDIAL GRADING PLAN (2014 TOPO.) DEBRIS REMOVAL ON OPEN PITS

DATE: 6/24/2020
SHEET 4 OF 5

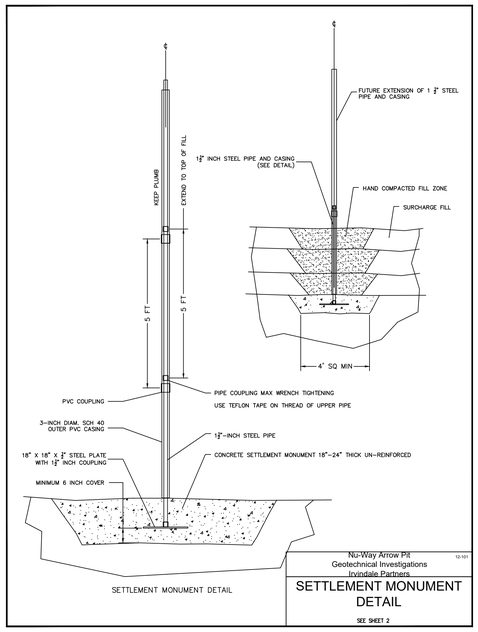
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Date Plotted: Jun 24, 2020 - 5:54pm by: Gilbert Tavano

NOTES

1. REMEDIAL EXCAVATIONS ALONG THE NORTHERN AND SOUTHERN EXCAVATION BOUNDARIES SHALL COMMENCE IN NATIVE SOILS AT THE TOP OF THE ORIGINAL PIT EXCAVATION WALLS AND PROCEED AT A 1:1 (HORIZONTAL TO VERTICAL) SLOPE TO THE DEPTH OF REMOVAL AND REPLACEMENT. REMEDIAL EXCAVATIONS ALONG THE EASTERN EXCAVATION BOUNDARY SHALL COMMENCE IN COMPACTED FILL AT THE ZONE A EXCAVATION LIMITS AND PROCEED AT A 1.5:1 (H:V) SLOPE TO THE DEPTH OF REMOVAL AND REPLACEMENT.
2. MANY OF THE SIDESLOPES OF THE PIT WERE / ARE MANTLED WITH VARIABLE THICKNESS OF LOOSE TALUS MATERIALS OR INERT DEBRIS FILL MATERIALS. DURING REMEDIAL EXCAVATION AND PRIOR TO FILL PLACEMENT, THESE MATERIALS SHALL BE REMOVED TO EXPOSE COMPETENT NATIVE SOILS
3. THE UPPER 3 FEET OF THE EXPOSED SUBGRADE AT THE BOTTOM OF THE REMEDIAL REMOVAL EXCAVATION SHALL BE COMPACTED TO PROJECT SPECIFICATIONS BY PROOF ROLLING USING THE SAME PROCEDURE USED FOR CONSTRUCTING MAXIMUM ACHIEVABLE DENSITY (MAD) PADS AS DEFINED IN APPENDIX A OF THE 2005 CITY OF IRWINDALE GUIDELINES FOR ABOVE WATER BACKFILLING OF OPEN PIT MINES (ABOVE WATER BACKFILLING GUIDELINES), I.E. WITH 50 PASSES OF A FULLY LOADED HEAVY SCRAPER, LOADER OR COMPACTOR.
4. AT THE COMPLETION OF PROOF ROLLING, THE UPPER 3 FEET OF SUBGRADE SHALL BE TESTED AND COMPACTION VERIFIED BY THE SOILS ENGINEER IN ACCORDANCE WITH THE PROCEDURES AND FREQUENCIES SPECIFIED IN APPENDIX J OF THE CITY OF IRWINDALE BUILDING CODE (APPENDIX J) AND THE ABOVE WATER BACKFILLING GUIDELINES, USING LARGE SIZE RING DENSITY TEST PROCEDURES.
5. THE EXCAVATED DEBRIS FILL FROM THE REMEDIAL GRADING AREAS MAY BE REUSED AS COMPACTED FILL PROVIDED IT MEETS THE DEFINITION OF INERT DEBRIS ENGINEERED FILL AS STATED IN APPENDIX J OF THE CITY OF IRWINDALE BUILDING CODE (APPENDIX J), TITLE 14 SECTION 17388 OF THE CALIFORNIA CODE OF REGULATIONS AND ABOVE WATER BACKFILLING GUIDELINES, AND IS FREE OF CONTAMINATION, ORGANIC MATERIALS, TRASH AND OVERSIZE MATERIALS LARGER 12 INCHES IN MAXIMUM DIMENSION.
6. OVERSIZE (PLUS 12–INCH) FRAGMENTS EXCAVATED MAY BE USED IN THE COMPACTED INERT DEBRIS FILL PROVIDED IT IS CRUSHED TO A MINUS 12–INCH SIZE
7. ALL COMPACTED FILL SHALL MEET THE MATERIAL AND PLACEMENT REQUIREMENTS SPECIFIED IN APPENDIX J AND THE ABOVE WATER BACKFILLING GUIDELINES.
8. ALL FILL MATERIALS SHALL BE PROCESSED TO MEET THE MATERIAL SPECIFICATIONS AND MOISTURE CONTENT PROVIDED IN APPENDIX J AND THE ABOVE WATER BACKFILLING GUIDELINES, PLACED IN HORIZONTAL LIFTS NOT EXCEEDING A THICKNESS OF 8–INCHES OR 1.5 TIMES THE MAXIMUM PARTICLE SIZE (WHICHEVER IS LARGER), AND MECHANICALLY COMPACTED BY MULTIPLE PASSES OF A COMPACTOR IN ORDER TO MEET THE MINIMUM RELATIVE COMPACTION REQUIREMENTS, SPECIFIED IN APPENDIX J AND THE ABOVE WATER BACKFILLING GUIDELINES. FILLS PLACED DEEPER THAN 40 FEET FROM PROPOSED FINAL FINISH GRADES SHALL BE COMPACTED TO A MINIMUM 93 PERCENT RELATIVE COMPACTION. FILLS PLACED WITHIN THE UPPER 40 FEET BELOW FINAL FINISH GRADES SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90 PERCENT.
9. SOIL FILLS CONTAINING NO MORE THAN 30% PARTICLES (BY WEIGHT) GREATER THAN 3/4–INCH IN MAXIMUM SIZE SHALL BE COMPACTED TO THE ASTM D1557 STANDARD. INERT DEBRIS FILLS AND BLENDED RUBBLE FILLS CONTAINING MORE THAN 30% OF PARTICLES LARGER THAN 3/4–INCH SIZE SHALL BE COMPACTED TO THE MAXIMUM ACHIEVABLE DENSITY (MAD) STANDARD AS DEFINED IN THE ABOVE WATER BACKFILLING GUIDELINES.
10. THE FILL MATERIALS SHALL BE TESTED BY THE SOILS ENGINEER IN ACCORDANCE WITH THE PROCEDURES AND FREQUENCIES SPECIFIED IN APPENDIX J AND THE ABOVE WATER BACKFILLING GUIDELINES, USING LARGE SIZE RING DENSITY TEST PROCEDURES WHERE APPROPRIATE. SEE TABLE ON THIS SHEET FROM ABOVE WATER BACKFILLING GUIDELINES
11. DURING FILL PLACEMENT HORIZONTAL BENCHES SHALL BE CUT INTO EXISTING SLOPES TO EXPOSE COMPETENT NATIVE MATERIALS OR PROPERLY COMPACTED FILL, AS PER THE REQUIREMENTS OF THE LA COUNTY GRADING GUIDELINES. PROPER KEYING AND BENCHING DETAILS ARE PROVIDED IN THE DRAWINGS.
12. ANY EROSION GULLIES EXISTING ON THE ON THE PIT SIDESLOPES SHALL BE REPAIRED DURING FILL PLACEMENT. THE EROSION GULLIES SHALL BE REPAIRED BY REMOVING LOOSE MATERIALS AND BENCHING THE COMPACTED FILL LIFTS INTO COMPETENT MATERIALS.
13. IN ACCORDANCE WITH THE WASTE DISCHARGE REQUIREMENTS (WDRS) ISSUED BY THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, ASPHALT CONCRETE (AC) DEBRIS MAY NOT BE PLACED BELOW ELEVATION 318 FEET.
14. THE UPPER 15 FEET OF FILL (BELOW PROPOSED FINAL FINISH GRADE) SHALL CONSIST OF FINER SOILS THAT MEET THE FOLLOWING REQUIREMENTS:
    - A. FREE OF VEGETATION, ORGANIC MATERIALS, DEBRIS AND CONTAMINATION
    - B. MAXIMUM PARTICLE SIZE OF 6 INCHES WITH NO MORE THAN 15% LARGER THAN 3 INCHES IN SIZE
    - C. MINIMUM FINES CONTENT OF 12%
    - D. NON–EXPANSIVE MATERIAL WITH A PLASTICITY INDEX LESS THAN 15%
15. IMPORT FILL SOILS SHALL BE EVALUATED AND APPROVED BY THE SOILS ENGINEER PRIOR TO IMPORT TO THE SITE
16. A NETWORK OF SETTLEMENT MONUMENTS SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS AND MONITORED DURING AND FOLLOWING THE REMEDIAL GRADING AS PER THE ABOVE WATER BACKFILLING GUIDELINES
17. ALL EARTHWORK ACTIVITIES INCLUDING REMOVALS, OVEREXCAVATION, MATERIALS PROCESSING AND BACKFILL PLACEMENT AND COMPACTION SHALL BE MONITORED BY THE SOILS ENGINEER. BASED ON EXPOSED SUBSURFACE CONDITIONS ALONG THE SIDESLOPES AND BOTTOM OF THE EXCAVATION, THE QUALITY OF EXCAVATED MATERIALS, AND RESULTS OF LARGE SCALE IN SITU DENSITY TESTS, THE GRADING / EARTHWORK RECOMMENDATIONS MAY BE REVISED, AS APPROPRIATE, BY THE SOILS ENGINEER.



VERTICAL LOCATION OF MIDFILL SETTLEMENT MONUMENTS



SETTLEMENT MONUMENT DETAIL

Nu-Way Arrow Pit
Geotechnical Investigations
Irwindale Partners

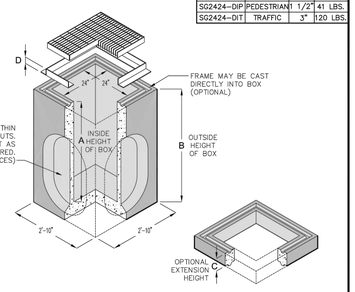
SETTLEMENT MONUMENT DETAIL

SEE SHEET 2

DROP INLET			
MODEL NO.	A	B	*WEIGHT
DI242436	36"	42"	1900 LBS.
DI242448	48"	54"	2500 LBS.

*BOX ONLY

FRAME AND GRATE			
MODEL NO.	RATING	D	WEIGHT
SG2424–DIP	PEDESTRIAN	1 1/2"	41 LBS.
SG2424–DIT	TRAFFIC	3"	120 LBS.



EXTENSION		
MODEL NO.	C	WEIGHT
RS242406	6"	300 LBS.
RS242412	12"	600 LBS.

- FRAME AND GRATE ASSEMBLY AVALIABLE IN TRAFFIC OR PEDESTRIAN MODELS.
- DESIGN FOR H-20-44 BRIDGE LOADING.
- ASSEMBLY TO BE PLACED ON A 6" BASE OF CRUSHER RUN FOR EASE OF INSTALLATION AND EVEN LOAD DISTRIBUTION.
- FOR COMPLETE DESIGN AND PRODUCT INFORMATION, CONTACT JENSEN PRECAST.
- ILLUSTRATION IS TYPICAL ONLY OF GENERAL SERIES CONFIGURATION: FOR SPECIFIC CONFIGURATION, CALL JENSEN PRECAST.

9

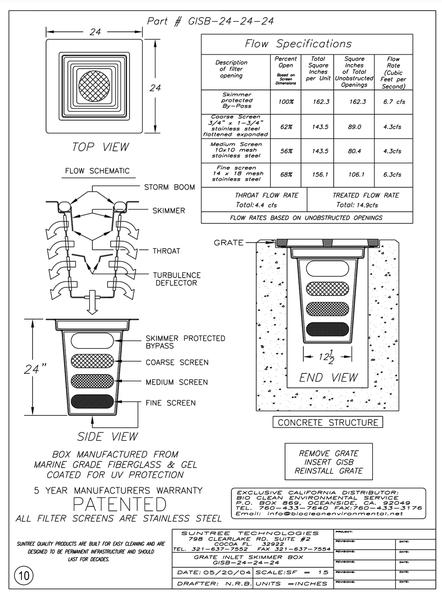
24" X 24" DRAIN INLET

JENSEN PRECAST

11-28-00 — DATE (MO./DAY/YR.)

DI2424

8.01



Flow Specifications

Description of filter opening	Percent Open (Based on Unobstructed Dimensions)	Total Square Inches per Unit	Square Inches of Total Unobstructed Openings	Flow Rate (Cubic Feet per Second)
Skimmer protected By–Pass	100%	162.3	162.3	6.7 cfs
Course Screen 3/4" x 1–3/4" stainless steel flattened expanded	62%	143.5	89.0	4.3cfs
Medium Screen 10x10 mesh stainless steel	56%	143.5	80.4	4.3cfs
Fine screen 14 x 18 mesh stainless steel	68%	156.1	106.1	6.3cfs

THROAT FLOW RATE	TREATED FLOW RATE
Total:4.4 cfs	Total: 14.9cfs

FLOW RATES BASED ON UNOBSTRUCTED OPENINGS

BOX MANUFACTURED FROM MARINE GRADE FIBERGLASS & GEL COATED FOR UV PROTECTION

5 YEAR MANUFACTURERS WARRANTY

PATENTED

ALL FILTER SCREENS ARE STAINLESS STEEL

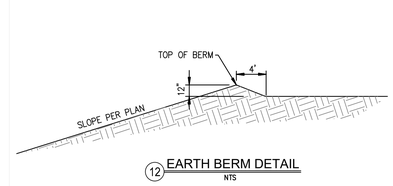
REMOVE GRATE
INSERT GISB
REINSTALL GRATE

EXCLUSIVE CALIFORNIA DISTRIBUTOR:
BIG CLEAN ENVIRONMENTAL SERVICE
P.O. BOX 888, OCEANSIDE, CA. 92049
TEL: 760-433-7640 FAX: 760-433-3176
Email: info@bigcleanenvironmental.net

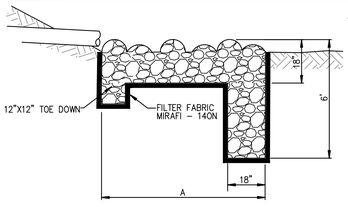
SUNTREE QUALITY PRODUCTS ARE BUILT FOR EASY CLEANING AND ARE DESIGNED TO BE PERMANENT INFRASTRUCTURE AND SHOULD LAST FOR DECADES.

10

SUNTREE TECHNOLOGIES 798 CLEARLAKE RD, SUITE #2 COCOA FL 32922 TEL: 321-637-7552 FAX 321-637-7554		
GRATE INLET SKIMMER BOX GISB–24–24		
DATE: 05/20/04	SCALE: SF = 15	
DRAFTER: N.R.B.	UNITS =INCHES	



12 EARTH BERM DETAIL
NTS



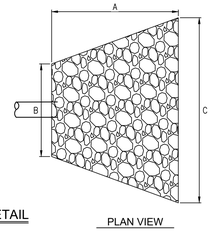
SECTION VIEW

CASE I:

USE D50 50# RIP–RAP	
% LARGER THAN	SIZE
0–5	100#
50–100	50#
95–100	25#
A= 7' B= 2' C= 5'	

CASE II:

USE D50 100# RIP–RAP	
% LARGER THAN	SIZE
0–5	200#
50–100	100#
95–100	50#
A= 50' B= 17' C= 41'	



PLAN VIEW

4 RIP RAP DETAIL
NTS

RIPRAP NOTES:

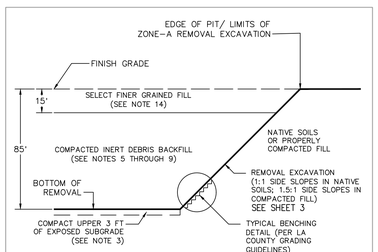
1. ROCKS FOR GROUTED RIPRAP SHALL BE GOOD QUALITY BROKEN CONCRETE AND/OR RIVER RUN ROCK. THE SMALLEST DIMENSIONS SHALL EXCEED 6–INCHES AND THE LARGEST DIMENSION SHALL NOT EXCEED 24–INCHES. THE LARGEST DIMENSION SHALL NOT EXCEED 4 TIMES THE SMALLEST DIMENSION.
2. THERE SHALL BE A GROUT BED OF AT LEAST 2–INCHES BENEATH THE FIRST LAYER OF ROCK. ALL THE VOIDS BETWEEN THE ROCKS SHALL BE FILLED WITH GROUT. MAXIMUM SPACING BETWEEN ROCKS SHALL BE 2–INCHES.
3. SURFACE ROCKS SHALL BE IMBEDDED FROM 1/2 TO 2/3 OF THEIR DIMENSION.

NOTE: CONCRETE MAY BE SUBSTITUTED FOR THE GROUT

SCHEDULE OF QUALITY ASSURANCE ACTIVITIES

FIELD TEST OR OBSERVATION	TEST METHOD	MINIMUM TESTING FREQUENCY	
		SOIL FILL NOTE 1	BLENDED RUBBLE FILL NOTE 2
OBSERVATION OF FILLING PROCESS	N/A	SUFFICIENT TO PROVIDE THE BASIS FOR AN OPINION ON CONFORMANCE OF THE FILLING PROCEDURES WITH THESE GUIDELINES	
TEST PITS OR TRENCHES	VISUAL ASSESSMENT OF FILL MATERIALS AND VOIDS IN ACCORDANCE WITH SECTION 9.2.4	N/A	ONE PER 5,000 CY, TWO PER LIFT, OR ONE PER WEEK, WHICHEVER IS MORE FREQUENT
FIELD DENSITY AND COMPACTION	SEE NOTE 3	ONE PER 1,000 CY OR ONE PER EACH TWO LIFTS	ONE PER 20,000 CY, ONE PER EA 2 WEEKS, OR PER 2 LIFTS
GRADATION	SEE NOTE 4	ONE PER 100,000 CY OR ONE PER MONTH	ONE PER 100,000 CY OR ONE PER MONTH
MOISTURE CONTENT	SHALL BE DETERMINED ONLY ON SIZES UP TO AND INCLUDING 3/4–INCH	ONE PER FIELD DENSITY TEST, AND AS NEEDED TO GUIDE FILL PLACEMENT	ONE PER 5,000 CY OR ONE PER WEEK

1. SOIL FILL HAS NO MORE THAN 30% PARTICLES LARGER THAN 3/4 INCH.
2. BLENDED RUBBLE FILL HAS MORE THAN 30% PARTICLES LARGER THAN 3/4 INCH.
3. FIELD DENSITY TESTS ON SOIL FILL MAY INCLUDE SAND CONE (ASTM D1556) OR NUCLEAR GAUGE (ASTM D 2922). MAXIMUM DENSITIES FOR SOIL FILL SHALL BE DETERMINED BY ASTM D1557. FIELD DENSITY TESTS FOR BLENDED RUBBLE FILL SHALL BE DETERMINED BY LARGE RING TESTS CONDUCTED IN ACCORDANCE WITH ASTM D4914, ASTM D 53030 OR THE PROVISIONS OF APPENDIX B. MAXIMUM ACHIEVABLE DENSITY DATA FOR BLENDED RUBBLE FILL SHALL BE DETERMINED FROM TEST PAD FILLS IN ACCORDANCE WITH APPENDIX A
4. GRADATION FOR SOIL FILLS AND BLENDED RUBBLE FILLS SHALL BE ESTABLISHED BY THE METHODS GIVEN IN ASTM D422, AND THE FIELD BULK GRADATION METHOD DESCRIBED IN APPENDIX B
5. APPENDICES A AND B REFER TO ABOVE WATER BACKFILLING GUIDELINES APPENDICES



TYPICAL REMEDIAL EXCAVATION/ BACKFILL DETAIL

HD GEOSOLUTIONS INC

May 1, 2019

Mr. Tony Spinrad
Arcadia Reclamation, Inc.
510 Foothill Boulevard, Suite 206
San Dimas, California 91773

Subject: Proposed Elimination of Structural Setback Zones
Arrow Pit Inert Debris Engineered Fill Operation -
The Park at Live Oak
1220 - 1270 Arrow Highway
Irwindale, California
HDGI Project No. 70917

Dear Mr. Spinrad,

We understand that the elimination of the structural setback zones depicted on the rough grading plan options by Hall & Foreman dated July 14, 2016 and recommended for approval by the Los Angeles County Geotechnical Materials Engineering Division (GMED) on July 28, 2016, is desired.

Project Background

Arcadia Reclamation, Inc. (ARI) took over as the operator of the site in late December 2016, and HD Geosolutions, Inc. (HDGI) assumed the responsibility as engineer of record for the site at approximately the same time. As a result of the desire to eliminate the designated structural setback zones, HDGI reviewed the basis of these setback zones. We found that these setback zones were originally established by the previous engineer of record, Advanced Engineering Services (AES), as a result of looser materials identified around the margins of the site that appeared to have been end-dumped over the perimeter road into the pit. These looser materials were not originally planned for removal, prompting AES to delineate areas above these looser materials as structural setback zones not suitable for support of building foundations.

Recommendations for Mitigation of Structural Setback Zones

In order to eliminate the need for the structural setback zones, HDGI recommends that these materials be removed vertically to a depth of 85 feet below the surrounding street grades, and laterally into the native materials within that 85-foot depth. As these removals are completed, the exposed subgrades should be proofrolled to establish a bottom. We recommend that settlement monuments be placed throughout the previously-designated structural setback zones at various elevations as engineered fill is placed. This will allow the settlement with respect to overburden added during fill operations to be evaluated. In this way, elimination of the structural setback zone can be justified using the combination of, 1) removals, 2) replacement of materials within the setback zones with engineered fill, 3) full-time observation and testing of these operations by HDGI, and 4) evaluation of settlement monument data obtained within these designated setback zones to evaluate the settlement performance for future development.

Differential Settlement Within Cut/Fill Transitions

The mechanics of differential settlement at sloped, cut/fill transitions are well known to the geotechnical community. The consequences of differential settlement in such circumstances can be costly, causing significant damage to structures and utilities. The risk of damage to structures in such zones increases with the following factors:

- Softer, uncontrolled, or poorly-placed fill
- Greater differences in fill depth across shorter distances
- Higher bearing pressures
- Larger conventional footings

During the grading process at this site, we have focused on controlling the first two factors. Through the use of well-installed and monitored settlement monuments at this site, we have gained a good understanding of the settlement characteristics of the blended rubble fill that is being placed by the operator, the fill previously placed by others, and the native alluvium.

Based on the empirical information gathered using direct measurement of settlement responses, it is our professional opinion that the blended rubble fill placed under our observation performs similar to or better than the native alluvium. The stiff response of the blended rubble fill reduces potential differential settlement.

A generally accepted technique for addressing cut/fill transition zones is presented in the Manual for Preparation of Geotechnical Reports, published by the County of Los Angeles Geotechnical and Materials Engineering Division (GMED). In Section 3.5.14 of the GMED manual entitled Building Pads in Transition Areas, it states that:

All building pads located in cut/fill or bedrock/soil transition areas should be overexcavated a minimum of 3 feet below the proposed bottom of footings. Structural mitigation may be permitted in lieu of overexcavation.

In the case of this development, we recommend a horizontal fill blanket at least three footing widths beneath the proposed building footings at the cut/fill transition zones at the margins of the site.

6320 Canoga Avenue, Suite 1500 | Woodland Hills, CA 91367 | T: 818.357.5845 | E: info@hdgeoinc.com

hdgeoinc.com

It is our professional opinion that the above-proposed measures will yield subgrades that will provide proper support for building foundations within the areas currently designated as structural setback zones.

The professional opinions expressed in this letter have been developed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable geotechnical consultants practicing in this or similar localities at this time. No other warranty, express or implied, is made as to the professional advice in this letter.

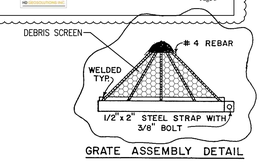
We appreciate the opportunity to be of service. If you have any questions about this report, please call at your convenience.

Respectfully submitted,
HD GEOSOLUTIONS, INC.

Brian D. Skyers, P.E., G.E.
Principal Geotechnical Engineer

Victor Langhaar, P.E., G.E.
Principal Geotechnical Engineer

c: Ms. Joanna Baker, Irwindale Partners, L.P. (electronic copy)
Mr. William Man, P.E., County of Los Angeles GMED (electronic copy, 1 hard copy)
Mr. William Tam, P.E., City of Irwindale (electronic copy, 1 hard copy)



GRATE ASSEMBLY DETAIL

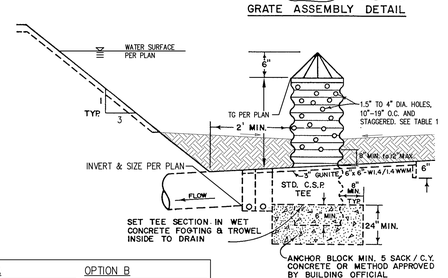


TABLE 1:

OPTION A			OPTION B		
EL.	HOLE DIA.	NO. HOLES	EL.	HOLE DIA.	NO. HOLES
378.5	4"	4	373	2.5"	7
379	4"	4	373.5	2.5"	7
379.5	1"	5	374	2"	7
380	1"	5	374.5	2"	7
380.5	1"	5	375	1.5"	7
381	1"	5	375.5	1.5"	7

5 TEMPORARY DRAIN PIPE AND RISER DETAIL
NTS

BUILDING AND SAFETY DIVISION
Department of Public Works
DRAINAGE & GRADING APPROVED
UNDER LOS ANGELES COUNTY CODE
TITLE 26
EAGUIRRE
PUBLIC WORKS
07/10/2020 2:50:42 PM

This set of plans and specifications must be kept at the job site at all times; and it is unlawful to make any changes, modifications or alterations to these plans or specifications without the prior written permission of the Building Official. The stamping of this set of plans and specifications SHALL NOT, under any circumstances, be deemed to permit or to be an approval of any work or activity that violates any provisions of any County Ordinance or State Law

811 Know what's below. Call before you dig.
CALL 811 AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

REV#	RECORD RCE APPR	DATE	REVISION BLOCK DESCRIPTION	CITY ENGINEER APPR	DATE
1			ROUGH GRADING REVISIONS		

HENRIK NAZARIAN, P.E. R.C.E. 59589 — 6/25/2020

D & D ENGINEERING, INC.
8901 S. LA CIENEGA BLVD, SUITE 106
INGLEWOOD, CA 90301
Phone: 424-393-4122

PREPARED UNDER THE SUPERVISION OF:

Designed by: GTC | Drawn by: GTC | Checked by: HN

CITY OF IRWINDALE
COUNTY OF LOS ANGELES

NUWAY-ARROW PIT
GRADING DETAILS

DATE: 6/25/2020
SHEET 5
OF 5

Drawing Name: M:\70915\Eng\70915–500V.DWG – 500V.DWG, Prof Plots, ROUGH GRADING\5 SHEET 5.dwg
Last Saved By: Grant Brewer

GENERAL NOTES

1. IN CASE OF EMERGENCY, CALL JOANNA BAKER AT 562-799-2366.
2. TOTAL DISTURBED AREA: 76.4 ACRES WDID# 4 19C376714
3. A STAND-BY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (NOVEMBER 1 TO APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE ON-SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF EMERGENCY DEVICES WHEN RAIN IS IMMINENT.
4. EROSION CONTROL DEVICES SHOWN ON THIS PLAN MAY BE REMOVED WHEN APPROVED BY THE BUILDING OFFICIAL IF THE GRADING OPERATION HAS PROGRESSED TO THE POINT WHERE THEY ARE NO LONGER REQUIRED.
5. GRADED AREAS ADJACENT TO FILL SLOPES LOCATED AT THE SITE PERIMETER MUST DRAIN AWAY FROM THE TOP OF SLOPE AT THE CONCLUSION OF EACH WORKING DAY. ALL LOOSE SOILS AND DEBRIS THAT MAY CREATE A POTENTIAL HAZARD TO OFF-SITE PROPERTY SHALL BE STABILIZED OR REMOVED FROM THE SITE ON A DAILY BASIS.
6. ALL SILT AND DEBRIS SHALL BE REMOVED FROM ALL DEVICES WITHIN 24 HOURS AFTER EACH RAINSTORM AND BE DISPOSED OF PROPERLY.
7. A GUARD SHALL BE POSTED ON THE SITE WHENEVER THE DEPTH OF WATER IN ANY DEVICE EXCEEDS TWO FEET. THE DEVICE SHALL BE DRAINED OR PUMPED DRY WITHIN 24 HOURS AFTER EACH RAINSTORM. PUMPING AND DRAINING OF ALL BASINS AND DRAINAGE DEVICES MUST COMPLY WITH THE APPROPRIATE BMP FOR DEWATERING OPERATIONS.
8. THE PLACEMENT OF ADDITIONAL DEVICES TO REDUCE EROSION DAMAGE AND CONTAIN POLLUTANTS WITHIN THE SITE IS LEFT TO THE DISCRETION OF THE FIELD ENGINEER. ADDITIONAL DEVICES AS NEEDED SHALL BE INSTALLED TO RETAIN SEDIMENTS AND OTHER POLLUTANTS ON SITE.
9. DESILTING BASINS MAY NOT BE REMOVED OR MADE INOPERABLE BETWEEN NOVEMBER 1 AND APRIL 15 OF THE FOLLOWING YEAR WITHOUT THE APPROVAL OF THE BUILDING OFFICIAL.
10. STORM WATER POLLUTION AND EROSION CONTROL DEVICES ARE TO BE MODIFIED, AS NEEDED, AS THE PROJECT PROGRESSES. THE DESIGN AND PLACEMENT OF THESE DEVICES IS THE RESPONSIBILITY OF THE FIELD ENGINEER. PLANS REPRESENTING CHANGES MUST BE SUBMITTED FOR APPROVAL IF REQUESTED BY THE BUILDING OFFICIAL.
11. EVERY EFFORT SHOULD BE MADE TO ELIMINATE THE DISCHARGE OF NON-STORM WATER FROM THE PROJECT SITES AT ALL TIMES.
12. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON-SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND.
13. STOCKPILES OF EARTH AND OTHER CONSTRUCTION-RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
14. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOILS AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
15. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON-SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
16. DEVELOPERS/CONTRACTORS ARE RESPONSIBLE TO INSPECT ALL EROSION CONTROL DEVICES AND BMPS ARE INSTALLED AND FUNCTIONING PROPERLY IF THERE IS A 50% OR GREATER PROBABILITY OF PREDICTED PRECIPITATION, AND AFTER ACTUAL PRECIPITATION. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL.
17. TRASH AND CONSTRUCTION-RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
18. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
19. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
20. AS THE ENGINEER/QSD OF RECORD, I HAVE SELECTED APPROPRIATE BMPS TO EFFECTIVELY MINIMIZE THE NEGATIVE IMPACTS OF THIS PROJECT'S CONSTRUCTION ACTIVITIES ON STORM WATER QUALITY. THE PROJECT OWNER AND CONTRACTOR ARE AWARE THAT THE SELECTED BMPS MUST BE INSTALLED, MONITORED, AND MAINTAINED TO ENSURE THEIR EFFECTIVENESS.

CIVIL ENGINEER/QSD SIGNATURE — DATE: 6/25/2020

21. AS THE PROJECT OWNER OR AUTHORIZED AGENT OF THE OWNER, "I CERTIFY THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH THE SYSTEM DESIGNED TO ENSURE THAT A QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION SUBMITTED IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT SUBMITTING FALSE AND/OR INACCURATE INFORMATION, FAILING TO UPDATE THE ESCP TO REFLECT CURRENT CONDITIONS, OR FAILING TO PROPERLY AND/OR ADEQUATELY IMPLEMENT THE ESCP MAY RESULT IN REVOCATION OF GRADING AND/OR OTHER PERMITS OR OTHER SANCTIONS PROVIDED BY LAW."

OWNER OR AUTHORIZED REPRESENTATIVE (PERMITEE) — DATE: 7/9/20

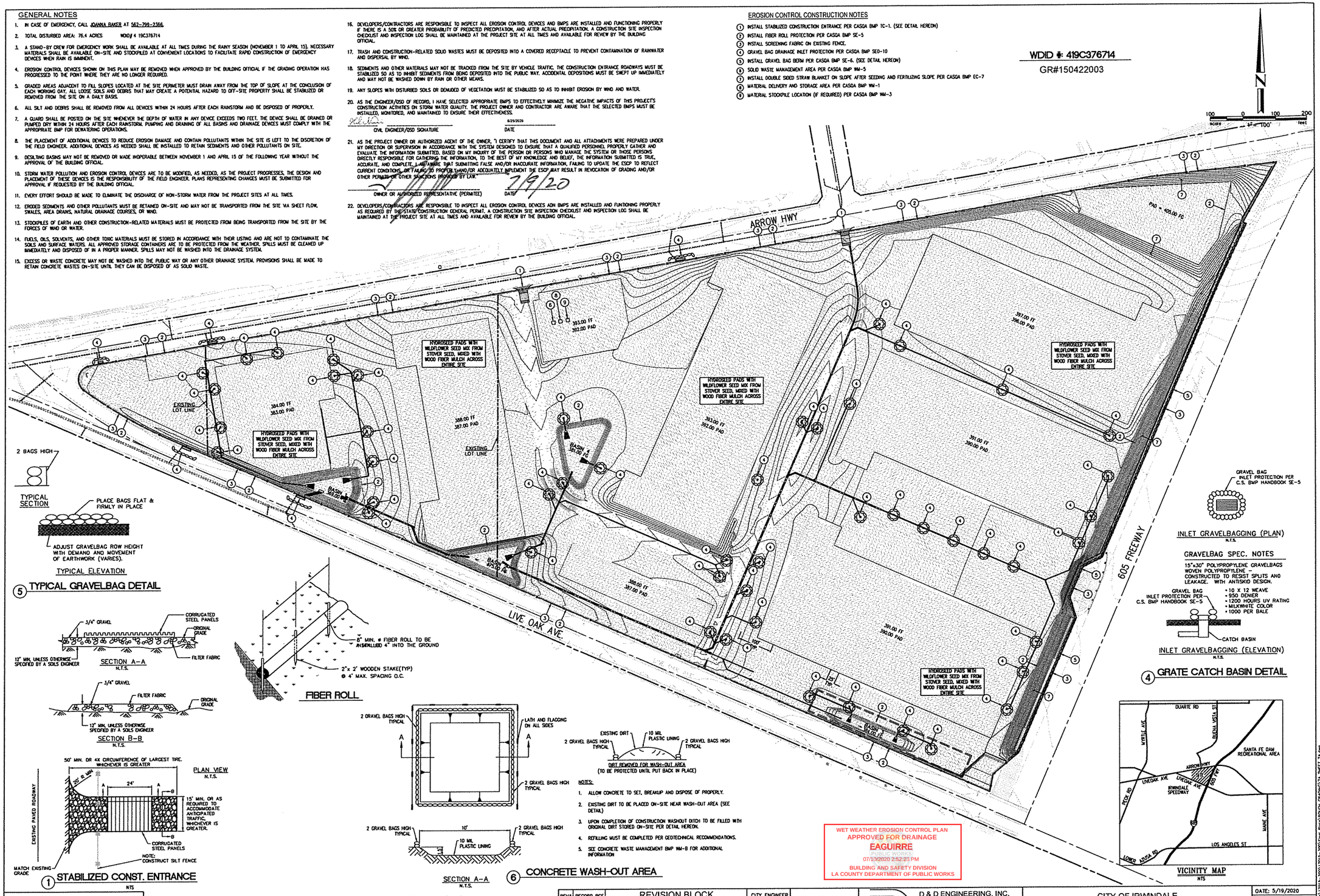
22. DEVELOPERS/CONTRACTORS ARE RESPONSIBLE TO INSPECT ALL EROSION CONTROL DEVICES AOH BMPS ARE INSTALLED AND FUNTIONING PROPERLY AS REQUIRED BY THE STATE CONSTRUCTION GENERAL PERMIT. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL.

EROSION CONTROL CONSTRUCTION NOTES

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE PER CASQA BMP TC-1. (SEE DETAIL HEREON)
2. INSTALL FIBER ROLL PROTECTION PER CASQA BMP SE-5
3. INSTALL SCREENING FABRIC ON EXISTING FENCE.
4. GRAVEL BAG DRAINAGE INLET PROTECTION PER CASQA BMP SE0-10
5. INSTALL GRAVEL BAG BERM PER CASQA BMP SE-6. (SEE DETAIL HEREON)
6. SOLID WASTE MANAGEMENT AREA PER CASQA BMP WM-5
7. INSTALL DOUBLE SIDED STRAW BLANKET ON SLOPE AFTER SEEDING AND FERTILIZING SLOPE PER CASQA BMP EC-7
8. MATERIAL DELIVERY AND STORAGE AREA PER CASQA BMP WM-1
9. MATERIAL STOCKPILE LOCATION (IF REQUIRED) PER CASQA BMP WM-3

WDID #: 419C376714

GR#150422003



TYPICAL GRAVELBAG DETAIL (5)

STABILIZED CONST. ENTRANCE (1)

NTS

FIBER ROLL

NOTES:
1. ALLOW CONCRETE TO SET, BREAKUP AND DISPOSE OF PROPERLY.
2. EXISTING DIRT TO BE PLACED ON-SITE NEAR WASH-OUT AREA (SEE DETAIL)
3. UPON COMPLETION OF CONSTRUCTION WASHOUT DITCH TO BE FILLED WITH ORIGINAL DIRT STORED ON-SITE PER DETAIL HEREON.
4. REFILLING MUST BE COMPLETED PER GEOTECHNICAL RECOMMENDATIONS.
5. SEE CONCRETE WASTE MANAGEMENT BMP WM-8 FOR ADDITIONAL INFORMATION

CONCRETE WASH-OUT AREA (6)

GRATE CATCH BASIN DETAIL (4)

WET WEATHER EROSION CONTROL PLAN
APPROVED FOR DRAINAGE
EAGUIRRE
PUBLIC WORKS
07/10/2020 2:52:23 PM
BUILDING AND SAFETY DIVISION
LA COUNTY DEPARTMENT OF PUBLIC WORKS

VOLUME REQUIRED(Q_{25}) = 200,537 CF

BASIN A = 109,317 CF
BASIN B = 71,529 CF
BASIN C = 88,012 CF
VOLUME PROVIDED = 268,858 CF

REVS	RECORD RCE		REVISION BLOCK	CITY ENGINEER	
	APPR	DATE	DESCRIPTION	APPR	DATE
1			ROUGH GRADING REVISIONS		

D & D ENGINEERING, INC.
8901 S. LA CIENEGA BLVD, SUITE 106
INGLEWOOD, CA 90301
Phone: 424-393-4122
PREPARED UNDER THE SUPERVISION OF: 6/25/2020
HENRIK NAZARIAN, P.E. R.C.E. 59589 DATE
Designed by: GTC Drawn by: GTC Checked by: HN

CITY OF IRWINDALE
COUNTY OF LOS ANGELES

NUWAY-ARROW PIT
EROSION CONTROL PLAN

DATE: 5/19/2020
SHEET 7A
OF 5

811 CALL 811
AT LEAST TWO DAYS BEFORE YOU DIG
Know what's below. Call before you dig.
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

Drawing Name: M:\1701JLS\v1\1701-301\Final Plots\PDGH\1701-301 Sheet 7A.dwg
Last Opened: May 19, 2020 - 3:15pm by: Edwin Tarcena

APPENDIX C

Correspondence with the Regional Water Quality Control Board

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
320 West 4th Street, Suite 200, Los Angeles, California 90013
(213) 576-6600 • Fax (213) 576-6640
https://www.waterboards.ca.gov/losangeles/

ORDER NO. R4-2022-0228

TERMINATION OF WASTE DISCHARGE REQUIREMENTS
FOR
IRWINDALE PARTNERS, LP
Arrow Nu-way Reclamation
File No. 01-084

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board), finds:

1. The Regional Water Board adopted waste discharge requirements (WDRs) Order No. 01-179 on December 13, 2001, for United Rock Products Corporation (URP) for the discharge of inert solid wastes at the URP Pit No. 1 Inert Landfill (Landfill) at 1220 and 1270 E. Arrow Highway, Irwindale, California. On December 13, 2004, the ownership of the site was transferred to Irwindale Partners, LP (also known as JH Properties) and operations of the site were transferred to Waste Management. On December 1, 2014, operations of the site were transferred from Waste Management to Cal Arrow Enterprises, Inc., and the name of the site was changed to Arrow Nu-Way Reclamation. Order No. 01-179 was revised by Order No. R4-2016-0332, adopted by the Regional Water Board on October 13, 2016. Irwindale Partners, LP (owner) and Cal Arrow Enterprises, Inc. (operator), were collectively referred to as the "Discharger" in Order No. R4-2016-0332. On October 26, 2016, operations of the Landfill were transferred from Cal Arrow Enterprises to Arcadia Reclamation Inc.

2. The Landfill is located at a triangle-shaped former aggregate quarry pit that was mined for sand and gravel from the 1940's to the 1990's. Inert landfill operations are part of the reclamation of the mining pit that is required under the State Surface Mining and Reclamation Act of 1975 (SMARA). The Landfill has been operated as an Inert Debris Engineered Fill Operation (IDEFO) in accordance with Division 7, Chapter 3 of Title 14 of the California Code of Regulations (Title 14). Wastes permitted to be discharged at the site included native geological materials, uncontaminated concrete, crushed glass, bricks, ceramics, clay and clay products, rock and clean soil, and fully cured asphalt.

3. In accordance with Title 27 of California Code of Regulations (Title 27), Section 20230(b), inert wastes do not need to be discharged at classified units. Adoption of WDRs for discharges of inert waste is at the discretion of the Regional Water Board and is not required by the regulations. The purpose of the WDRs was to ensure that only inert wastes were discharged and the Landfill, while any other type of wastes, such as municipal solid wastes and hazardous wastes, were excluded from the waste stream. The Discharger has been in compliance with the WDRs.

4. In a letter dated October 31, 2021, Arcadia Reclamation Inc. informed the Regional Water Board that landfill operations at the site had been completed. In another letter dated March 17, 2022, Arcadia Reclamation Inc. requested termination of Order No. R4-2016-0332, as the permitted discharge of wastes had ceased.

5. During an inspection of the Landfill on March 8, 2022, Regional Water Board staff observed that the site had been filled to street level and that the property was ready for redevelopment.

6. The Landfill has been monitoring the groundwater quality at the site since 2002 as required under the WDRs. The analytical data collected do not indicate any impact on groundwater quality by the Landfill. However, due to the prolonged drought in southern California, the two downgradient groundwater monitoring wells at the Landfill have been dry since 2015. As a reference, current groundwater monitoring data at the adjacent Irwindale Quarry Inert Landfill, which is directly downgradient to the Landfill, does not indicate pollution of groundwater by landfill operations, either.

7. WDRs included in Order No. R4-2016-0332 are no longer necessary because the permitted discharge of wastes at the Landfill has ceased. Because the Landfill has never received municipal solid waste or other wastes that can produce leachate or landfill gas, the closed Landfill is no longer a threat to groundwater quality. Long-term post-closure monitoring and maintenance at the Landfill are therefore not required.

8. Termination of the WDRs is exempt from the provisions of the California Environmental Quality Act pursuant to California Code of Regulations, title 14, section 15061, subdivision (b)(3) (common sense exemption) because there is no possibility that a termination of waste discharge requirements may have a significant effect on the environment.

9. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to terminate WDRs for this discharge and has provided them with an opportunity to submit their written views and recommendations.

10. The Regional Water Board in a public meeting heard and considered all comments pertaining to the discharge and to the tentative termination of waste discharge requirements.

11. Pursuant to CWC section 13320, any aggrieved party may seek review of this Order by filing a petition with the State Water Resources Control Board (State Water Board). The petition must be received by the State Water Board, P.O. Box 100, Sacramento, CA 95812, within 30 days of the date this Order is adopted.

IT IS HEREBY ORDERED that Order No. R4-2016-0332 be terminated, except for enforcement purposes.

The Executive Officer of the Regional Water Board is authorized, and is hereby directed, to certify and submit a copy of this Order to the Discharger, and to such individuals and governmental agencies that request it.

I, Renee Purdy, Executive Officer, do certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on July 14, 2022.

R Purdy
Digitally signed by R Purdy
Date: 2022.07.26 15:20:21 -07'00'

Renee Purdy
Executive Officer

Arcadia Reclamation, Inc.

March 17, 2022

State of California – Regional Water Quality Control Board
Technical Support Unit - Compliance File CI-8316
320 West 4th Street, Suite 200
Los Angeles, California 90013

SUBJECT: Request to Close Waste Discharge Requirements, 1200-1270 East Arrow Highway, Irwindale, California (RWQCB Order No. R4-2016-0332 – Compliance File No. CI-8316)

The Site owner(s) retained Arcadia Reclamation Inc. (ARI) to operate the referenced Inert Debris Engineered Fill Operation (IDEFO). ARI successfully implemented the approved plans including the Waste Load Checking Plans, Operations Plan, Storm Water Pollution Prevention Plan and the Waste Discharge Requirements (WDRs). Following completion of the placement of IDEFO materials, properly compacted final cover was placed above the IDEFO materials to near "street grade". Subsequent to our submission of the Notice of Completion, RWQCB staff noted the following in their review process:

- "Provision E.11 of the WDRs requires that "*Ninety (90) days prior to cessation of disposal operations at the Landfill, the Discharger shall submit a technical report to the Regional Board describing the methods and controls to be used to assure protection of the quality of receiving waters during final operations and with any proposed subsequent use of the land. Such methods and controls shall comply with the foregoing technical report and the WDRs.*
- "Once such a report is submitted and a formal request to terminated the WDRs are received, we will proceed with terminating the WDRs at a Board meeting."

Based on the review comments, we note that our effective date of "cessation of disposal operations" at the IDEFO is today (i.e. March 17, 2022). We formally request that your office proceed with the preparation of the WDR closure package and schedule the Board meeting to vote on closure of the WDRs.

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information is, to the best of my knowledge and belief, true, accurate and complete. If you have any questions, please call at your convenience.

Respectfully submitted
Arcadia Reclamation Inc.

John D. Edwards.

John D. Edwards
Program Manager

Distribution: *RWQCB-LA via GeoTracker*

P.O. Box 7368 ***(909) 392-8510***
La Verne, California 91750 ***fax (909) 392-8593***

Arcadia Reclamation, Inc.

October 31, 2021

State of California – Regional Water Quality Control Board
Technical Support Unit - Compliance File CI-8316
320 West 4th Street, Suite 200
Los Angeles, California 90013

SUBJECT: Notice of Completion, 1200-1270 East Arrow Highway, Irwindale, California (RWQCB Order No. R4-2016-0332 – Compliance File No. CI-8316)

The Site owner(s) retained Arcadia Reclamation Inc. (ARI) to operate the referenced Inert Debris Engineered Fill Operation (IDEFO). ARI implemented the approved plans including the Waste Load Checking Plans, Operations Plan, Storm Water Pollution Prevention Plan and the Waste Discharge Requirements (WDRs). Following completion of the placement of IDEFO materials, properly compacted final cover was placed above the IDEFO materials to near "street grade". ARI was released as operator on October 31, 2021.

Please note that finish grading (e.g. landscaping, utility trenches etc.) are being completed by others, independent of the IDEFO and associated WDRSs. As a result of the completion of the IDEFO, ARI herein notifies RWQCB-LA that our responsibility for continuing any effort at the site is cancelled, effective with this notification letter.

If the water table rises to the point where monitoring wells can be sampled, we would, of course, agree to that effort until such time as the WDRs are rescinded. Anacapa will continue to oversee that issue and upload any progress to the Geotracker database.

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information is, to the best of my knowledge and belief, true, accurate and complete. If you have any questions, please call at your convenience.

Respectfully submitted
Arcadia Reclamation Inc.



John D. Edwards
Program Manager

Distribution: *RWQCB-LA via GeoTracker*
JH Properties Inc.
Anacapa Geoservices Inc.
HD Geosolutions Inc.

P.O. Box 7368 ***(909) 392-8510***
La Verne, California 91750 ***fax (909) 392-8593***

APPENDIX D

Approvals by Los Angeles County Geotechnical Materials and Engineering Division

Dist. Office 5.06
PCA B335001
EPIC LA

Telephone: (626) 458-4925

County of Los Angeles Department of Public Works
Geotechnical and Materials Engineering Division
GEOLOGIC AND SOILS ENGINEERING REVIEW SHEET
900 S. Fremont Avenue, Alhambra, CA 91803

Tract / Parcel Map	82551	**Lot(s)**		**Parent Tract**	
Site Address	1270 Arrow Highway	**Location**	Irwindale	**APN**	8532001013-017
Geologist		**Developer/Owner**	Irwindale Partners LP		
Soils Engineer	HD Geosolutions	**Engineer/Arch.**	RGA, D&D Engineering Inc.		

Review of:

Building P.C. No.: For:
Grading P.C. No.: GR1504220003 The Park at Live Oak mass grading (Parcels 1-4 ONLY)
Submittal Received by GMED: 1/27/22

Geologic Report(s) Dated:
Soils Engineering Report(s) Dated: **12/3/21 (Parcels 1-4)**
Geotechnical Report(s) Dated:
References:

Action: Based on the above referenced report, rough grading is recommended for approval from a geotechnical standpoint for for areas within Parcels 1 thru 4 only.

NOTE TO THE PLAN CHECKER/BUILDING AND SAFETY ENGINEER:

A. THIS REVIEW ONLY COVERS ROUGH GRADING FOR AREAS WITHIN PARCELS 1 THRU 4 ONLY.

PER THE SOILS ENGINEER:

B. THERE SHALL BE NO SIGNIFICANT EARTHWORK (LESS THAN 10 VERTICAL FEET OVER AN AREA GREATER THAN 100'X100') OCCURRING WITHIN 150 FEET OF THE PROPOSED STRUCTURE.
C. SETTLEMENT MONUMENTS WITHIN 200 FEET OF THE PROPOSED BUILDING PERIMETER SHALL BE SURVEYED WEEKLY FOR AT LEAST 10 WEEKS PRIOR TO POURING ANY FOUNDATIONS.
D. THERE SHALL BE NO DOWNWARD TREND IN SETTLEMENT MONUMENT MOVEMENT, AS DETERMINED BY THE GEOTECHNICAL ENGINEER OF RECORD, OVER THE 8 WEEKS PRIOR TO POURING FOUNDATIONS.

Prepared by



William Man
Soils Section

--
Geology Section

Date 1/31/2022

Please complete a Customer Service Survey at http://dpw.lacounty.gov/go/gmedsurvey

NOTICE: Public safety, relative to geotechnical subsurface exploration, shall be provided in accordance with current codes for excavations, inclusive of the Los Angeles County Code, Chapter 11.48, and the State of California, Title 8, Construction Safety Orders.

Dist. Office 5.06
PCA B335001
EPIC LA

Telephone: (626) 458-4925

County of Los Angeles Department of Public Works
Geotechnical and Materials Engineering Division
GEOLOGIC AND SOILS ENGINEERING REVIEW SHEET
900 S. Fremont Avenue, Alhambra, CA 91803

Tract / Parcel Map	82551	**Lot(s)**		**Parent Tract**	
Site Address	1270 Arrow Highway	**Location**	Irwindale	**APN**	8532001013-017
Geologist		**Developer/Owner**	Irwindale Partners LP		
Soils Engineer	HD Geosolutions	**Engineer/Arch.**	RGA, D&D Engineering Inc.		

Review of:

Building P.C. No.: For:
Grading P.C. No.: GR1504220003 The Park at Live Oak mass grading (Buildings 1 and 2 ONLY)
Submittal Received by GMED: 9/6/21

Geologic Report(s) Dated:
Soils Engineering Report(s) Dated: **9/7/21 (Buildings 1 and 2)**
Geotechnical Report(s) Dated:
References:

Action: Based on the above referenced report, rough grading is recommended for approval from a geotechnical standpoint for for areas within Buildings 1 and 2 only.

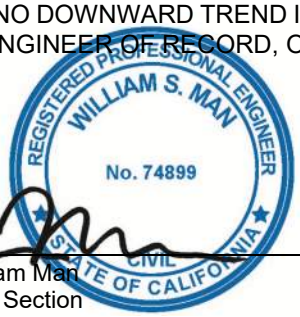
NOTE TO THE PLAN CHECKER/BUILDING AND SAFETY ENGINEER:

A. THIS REVIEW ONLY COVERS ROUGH GRADING FOR AREAS WITHIN BUILDINGS 1 AND 2 ONLY.

PER THE SOILS ENGINEER:

B. THERE SHALL BE NO SIGNIFICANT EARTHWORK (LESS THAN 10 VERTICAL FEET OVER AN AREA GREATER THAN 100'X100') OCCURRING WITHIN 150 FEET OF THE PROPOSED STRUCTURE.
C. SETTLEMENT MONUMENTS WITHIN 200 FEET OF THE PROPOSED BUILDING PERIMETER SHALL BE SURVEYED WEEKLY FOR AT LEAST 10 WEEKS PRIOR TO POURING ANY FOUNDATIONS.
D. THERE SHALL BE NO DOWNWARD TREND IN SETTLEMENT MONUMENT MOVEMENT, AS DETERMINED BY THE GEOTECHNICAL ENGINEER OF RECORD, OVER THE 8 WEEKS PRIOR TO POURING FOUNDATIONS.

Prepared by



William Man
Soils Section

--
Geology Section

Date 10/19/2021

Please complete a Customer Service Survey at http://dpw.lacounty.gov/go/gmedsurvey

NOTICE: Public safety, relative to geotechnical subsurface exploration, shall be provided in accordance with current codes for excavations, inclusive of the Los Angeles County Code, Chapter 11.48, and the State of California, Title 8, Construction Safety Orders.

Dist. Office 5.06
PCA B335001
EPIC LA
Telephone: (626) 458-4925

County of Los Angeles Department of Public Works
Geotechnical and Materials Engineering Division
GEOLOGIC AND SOILS ENGINEERING REVIEW SHEET
900 S. Fremont Avenue, Alhambra, CA 91803

Tract / Parcel Map	82551	**Lot(s)**		**Parent Tract**	
Site Address	1270 Arrow Highway	**Location**	Irwindale	**APN**	8532001002,-006
Geologist		**Developer/Owner**	Irwindale Partners LP		
Soils Engineer	HD Geosolutions	**Engineer/Arch.**	RGA, D&D Engineering Inc.		

Review of:

Grading P.C. No.: GR1504220003 For: The Park at Live Oak – Infiltration Basins Only (Parcels 5-9)
Grading P.C. No.:
Submittal Received by GMED: 7/27/21

Geologic Report(s) Dated:
Soils Engineering Report(s) Dated: **7/26/21,** 6/21/21
Geotechnical Report(s) Dated:
References:

Remarks:

GMED has no further comments at this time provided the following conditions are met:

1. When finalizing drywell plans for grading plan check, Detail C on Sheet 18 of 41 of the precise grading plans, shown as Figure 3 of HD Geosolutions' 6/21/21 report, shall be revised to show that the drywell must extend below the engineered fill into the native alluvium.

2. Infiltration is only allowed at Detention Basins C, D, and E, as shown on HD Geosolutions' Figure 1 geotechnical map.

3. HD Geosolutions must review, sign, and stamp the final plans that depict the location and details of the drywells and detention basins. A copy of these signed and stamped plans shall be provided to GMED for our records.

NOTE(S) TO THE PLAN CHECKER/BUILDING AND SAFETY ENGINEER:

A. ONLY GENERIC DETENTION BASIN AND DRYWELL PLANS WERE PROVIDED AS PART OF THIS REVIEW SUBMITTAL.

PER THE SOILS ENGINEER:

B. DETENTION BASINS SHALL BE DESIGNED WITH DRYWELLS THAT ARE CONSTRUCTED INTO NATIVE ALLUVIUM.
C. PROPOSED DRYWELLS SHALL BE DESIGNED BASED ON AN INFILTRATION RATE OF 5.5 INCHES/HOUR IF INFILTRATING INTO NATIVE ALLUVIUM BELOW THE ENGINEERED FILL.
D. INFILTRATION SHALL NOT BE ALLOWED IN ENGINEERED FILL.

Prepared by

REGISTERED PROFESSIONAL ENGINEER WILLIAM S. MAN No. 74899 CIVIL STATE OF CALIFORNIA

William Man
Soils Section

--
Geology Section

Date 8/3/2021

Please complete a Customer Service Survey at http://dpw.lacounty.gov/go/gmedsurvey

NOTICE: Public safety, relative to geotechnical subsurface exploration, shall be provided in accordance with current codes for excavations, inclusive of the Los Angeles County Code, Chapter 11.48, and the State of California, Title 8, Construction Safety Orders.

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County of Los Angeles Department of Public Works
Geotechnical and Materials Engineering Division
GEOLOGIC AND SOILS ENGINEERING REVIEW SHEET
900 S. Fremont Avenue, Alhambra, CA 91803

Tract / Parcel Map	82551	**Lot(s)**		**Parent Tract**	
Site Address	1270 Arrow Highway	**Location**	Irwindale	**APN**	8532001013-017
Geologist		**Developer/Owner**	Irwindale Partners LP		
Soils Engineer	HD Geosolutions	**Engineer/Arch.**	RGA, D&D Engineering Inc.		

Review of:

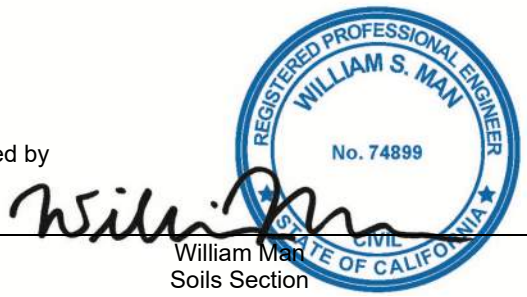
Building P.C. No.: For:
Grading P.C. No.: GR1504220003 The Park at Live Oak mass grading (Parcels 5-9 ONLY)
Submittal Received by GMED: 5/26/21

Geologic Report(s) Dated:
Soils Engineering Report(s) Dated: **5/25/21 (Parcels 5-9)**
Geotechnical Report(s) Dated:
References:

Action: Based on the above referenced report, rough grading is recommended for approval from a geotechnical standpoint for for Parcels 5-9 only.

NOTE TO THE PLAN CHECKER/BUILDING AND SAFETY ENGINEER:
THIS REVIEW ONLY COVERS ROUGH GRADING FOR PARCELS 5-9. ONLY BUILDING 5 IS PROPOSED IN THIS AREA.

Prepared by



William Man
Soils Section

--
Geology Section

Date 7/27/2021

Please complete a Customer Service Survey at http://dpw.lacounty.gov/go/gmedsurvey
NOTICE: Public safety, relative to geotechnical subsurface exploration, shall be provided in accordance with current codes for excavations, inclusive of the Los Angeles County Code, Chapter 11.48, and the State of California, Title 8, Construction Safety Orders.

Dist. Office 5.06
PCA B335001
EPIC LA
Telephone: (626) 458-4925

County of Los Angeles Department of Public Works
Geotechnical and Materials Engineering Division
GEOLOGIC AND SOILS ENGINEERING REVIEW SHEET
900 S. Fremont Avenue, Alhambra, CA 91803

Tract / Parcel Map		**Lot(s)**		**Parent Tract**	82551
Site Address	1270 Arrow Highway	**Location**	Irwindale	**APN**	8532001002,-006
Geologist		**Developer/Owner**	Irwindale Partners LP		
Soils Engineer	HD Geosolutions	**Engineer/Arch.**	RGA, D&D Engineering Inc.		

Review of:

Grading P.C. No.: GR1504220003 For: The Park at Live Oak – Infiltration Basins Only (Parcels 5-9)
Grading P.C. No.:
Submittal Received by GMED: 6/21/21

Geologic Report(s) Dated:
Soils Engineering Report(s) Dated: **6/21/21**
Geotechnical Report(s) Dated:
References:

Remarks:

GMED has no further comments at this time provided the following conditions are met:

1. When finalizing drywell plans for grading plan check, Detail C on Sheet 18 of 41 of the precise grading plans, shown as Figure 3 of HD Geosolutions' 6/21/21 report, shall be revised to show that the drywell must extend below the engineered fill into the native alluvium.

2. Infiltration is only allowed at Detention Basins C, D, and E, as shown on HD Geosolutions' Figure 1 geotechnical map.

3. HD Geosolutions must review, sign, and stamp the final plans that depict the location and details of the drywells and detention basins. A copy of these signed and stamped plans shall be provided to GMED for our records.

NOTE(S) TO THE PLAN CHECKER/BUILDING AND SAFETY ENGINEER:

A. ONLY GENERIC DETENTION BASIN AND DRYWELL PLANS WERE PROVIDED AS PART OF THIS REVIEW SUBMITTAL.

PER THE SOILS ENGINEER:

B. DETENTION BASINS SHALL BE DESIGNED WITH DRYWELLS THAT ARE CONSTRUCTED INTO NATIVE ALLUVIUM.
C. PROPOSED DRYWELLS SHALL BE DESIGNED BASED ON AN INFILTRATION RATE OF 0.79 INCHES/HOUR IF INFILTRATING INTO NATIVE ALLUVIUM BELOW THE ENGINEERED FILL.
D. INFILTRATION SHALL NOT BE ALLOWED IN ENGINEERED FILL.

Prepared by

REGISTERED PROFESSIONAL ENGINEER WILLIAM S. MAN No. 74899 CIVIL STATE OF CALIFORNIA

William Man
Soils Section

--
Geology Section

Date 6/28/2021

Please complete a Customer Service Survey at http://dpw.lacounty.gov/go/gmedsurvey

NOTICE: Public safety, relative to geotechnical subsurface exploration, shall be provided in accordance with current codes for excavations, inclusive of the Los Angeles County Code, Chapter 11.48, and the State of California, Title 8, Construction Safety Orders.

Dist. Office 5.06
PCA B335001
Telephone: (626) 458-4925

County of Los Angeles Department of Public Works
Geotechnical and Materials Engineering Division
GEOLOGIC AND SOILS ENGINEERING REVIEW SHEET
900 S. Fremont Avenue, Alhambra, CA 91803

Tract / Parcel Map		**Lot(s)**		**Parent Tract**	
Site Address	1270 Arrow Highway	**Location**	Irwindale	**APN**	8532-001-002
Geologist	HD Geosolutions	**Developer/Owner**	Irwindale Partners, LP		
Soils Engineer	HD Geosolutions	**Engineer/Arch.**	D&D Engineering Inc.		

Review of:

Grading P.C. No.: 1504220003 For: Remedial grading of inert debris landfill; revised structural setback zone
Grading Plan Dated by Processing Center: **10/16/19**

Geologic Report(s) Dated:
Soils Engineering Report(s) Dated:
Geotechnical Report(s) Dated: **7/10/19,** 5/1/19, 3/14/18
References: Advanced Earth Sciences Reports: (7/14/16(two reports), 1/6/16, 6/5/14, 3/14/14, 8/19/13, 4/12/13
Hushmand Associates (HA) Report: 10/15/10 HA Quality Assurance (QA) Reports:5/22/08, 2/12/09, 2/17/10, 5/14/12, 7/2/12, 4/16/13, 7/7/14, April 2015

Action: Plan is recommended for approval from a geotechnical standpoint, subject to the following conditions.

1. HD Geosolutions must review, sign and stamp the plans in verification of their recommendations.

2. In-grading inspections must be made by the geotechnical consultant(s). Quarterly in-grading inspection reports must be submitted directly to the Geology and Soils Engineering Review Section by the consultants.

3. Rough grading must be approved by a final geotechnical report. An As-Built Geologic Map must be included in the final geology report. In accordance with Section J105.12 of the County of Los Angeles Building Code, provide a final report statement that verifies work was done in accordance with report recommendations and Code provisions. The final report(s) must be submitted to the Geotechnical and Materials Engineering Division for review and approval.

4. Foundation excavations must be inspected and approved by the geotechnical consultant(s) prior to the placing of steel or concrete.

5. The geotechnical consultant(s) must include in their final reports on rough grading, in accordance with Section J105.12, a certification that indicates to the best their knowledge, the work within their area of responsibility is in accordance with their report(s) and applicable provisions of the County of Los Angeles Building Code.

6. In accordance with Section J105.12 of the County of Los Angeles Building Code, final reports on rough grading, which address the completed grading, shall contain a finding regarding the safety of the completed grading and any proposed structures against hazard from future landsliding, settlement, or slippage and a finding regarding the effect that the completed grading will have on the geologic stability of property outside of the building site. The finding must be substantiated by appropriate data and analysis.

NOTE(S) TO THE PLAN CHECKER/BUILDING AND SAFETY ENGINEER:

A. ALL EXISTING FILL PLACED WAS PERFORMED UNDER A STATE MINING RECLAMATION PERMIT, NOT A COUNTY-ISSUED GRADING PERMIT. NO GRADING INSPECTION WAS PERFORMED BY COUNTY PERSONNEL.
B. THIS REVIEW IS BASED ON THE CITY OF IRWINDALE'S GUIDELINES FOR ABOVE-WATER BACKFILLING OF OPEN-PIT MINES (2005).
C. ONLY SHEETS 1, 3A, 4, 5, AND 7A WERE SUBMITTED FOR REVIEW.
D. THIS REVIEW DOES NOT INCLUDE ON-SITE INFILTRATION FEASIBILITY. INFILTRATION INTO OR IN PROXIMITY OF DEBRIS FILL MAY BE SUBJECT TO CONDITIONS AND REQUIREMENTS OF OTHER AGENCIES.

PER THE SOILS ENGINEER:

E. A COMPACTED FILL CAP WITH AN EFFECTIVE MINIMUM THICKNESS OF 88 FEET SHALL BE PROVIDED OVER ALL UNDERLYING DEBRIS FILL. DIFFERENTIAL SETTLEMENT AT THE GROUND SURFACE IS APPROXIMATELY 1.5 INCHES OVER A HORIZONTAL DISTANCE OF 30 FEET.
F. AT THE BOTTOM OF THE 85-FOOT EXCAVATION, IN-SITU LARGE SCALE DENSITY TESTS SHALL BE PERFORMED AND THE SOILS ENGINEER SHALL REASSESS SUBSURFACE CONDITIONS AND PROVIDE REVISED RECOMMENDATIONS AS NECESSARY.

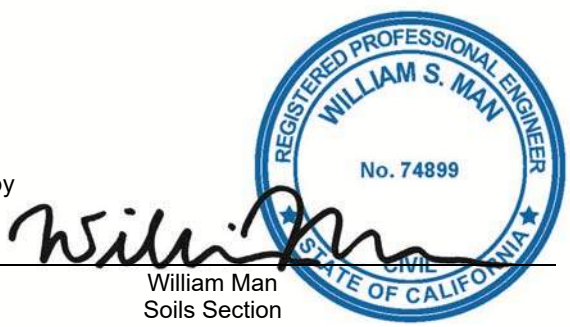
County of Los Angeles Department of Public Works
Geotechnical and Materials Engineering Division
GEOLOGIC AND SOILS ENGINEERING REVIEW SHEET (continued)

Grading P.C. No. 1504220003

Remarks (continued):

G. A 100- to 150-FOOT WIDE STRUCTURAL SETBACK SHALL BE PROVIDED (SEE REPORT DATED 4/12/13 SECTION 9.2 AND LETTER DATED 8/19/13 FIGURE 10 FOR DETAILS). SEE NOTE L FOR REMEDIAL MEASURES TO ELIMINATE SETBACK ZONES.
H. ALL FILL MATERIALS SHALL BE PROCESSED TO MEET MATERIAL SPECIFICATIONS AND MOISTURE CONTENT PROVIDED IN IRWINDALE GUIDELINES. THE FILL MATERIALS SHALL BE TESTED IN ACCORDANCE WITH THE PROCEDURES AND FREQUENCIES SPECIFIED IN THESE GUIDELINES.
I. STRUCTURAL FOUNDATIONS WITHIN THE DESIGNATED AREAS SHALL BE DESIGNED TO ACCOMMODATE A MINIMUM DIFFERENTIAL SETTLEMENT OF 1.5 INCHES OVER A HORIZONTAL DISTANCE OF 30 FEET
J. AFTER COMPLETION OF GRADING, SETTLEMENT MONITORING DATA SHALL BE USED TO DETERMINE THE MINIMUM WAITING PERIOD PRIOR TO BEGINNING CONSTRUCTION OF STRUCTURES.
K. SHEAR STRENGTHS OF NATIVE MATERIALS EXPOSED ON SIDE-SLOPES HAVE A FRICTION ANGLE OF 50 DEGREES AND A COHESION RANGING BETWEEN 150 TO 300 PSF.
L. GRADING WITHIN THE STRUCTURAL SETBACK ZONE SHALL CONFORM TO THE REMEDIAL EXCAVATION AND BACKFILL DETAIL ON SHEET 4 OF 5 OF THE GRADING PLAN. THESE DETAILS ARE TAKEN FROM HD GEOSOLUTIONS LETTER DATED 7/10/19. ALL QUARTERLY AND ANNUAL GRADING REPORTS MUST PROVIDE DETAILED LOCATIONS AND DOCUMENTATION OF REMEDIAL GRADING PERFORMED WITHIN THESE ZONES. AREAS WHERE REMEDIAL GRADING IS NOT PERFORMED MUST BE REFLECTED IN THE AS-BUILT GRADING MAPS AND GRADING PLANS MUST BE REVISED AND SUBMITTED FOR REVIEW.

Prepared by



William Man
Soils Section

--
Geology Section

Date 10/29/19

Please complete a Customer Service Survey at http://dpw.lacounty.gov/go/gmedsurvey
NOTICE: Public safety, relative to geotechnical subsurface exploration, shall be provided in accordance with current codes for excavations, inclusive of the Los Angeles County Code, Chapter 11.48, and the State of California, Title 8, Construction Safety Orders.

Dist. Office 5.06
PCA B335001/A304
EPIC LA
Telephone: (626) 458-4925

County of Los Angeles Department of Public Works
Geotechnical and Materials Engineering Division
GEOLOGIC AND SOILS ENGINEERING REVIEW SHEET
900 S. Fremont Avenue, Alhambra, CA 91803

Tract / Parcel Map		**Lot(s)**		**Parent Tract**	
Site Address	1270 Arrow Highway	**Location**	Irwindale	**APN**	8532-001-002
Geologist	HD Geosolutions	**Developer/Owner**	Irwindale Partners, LLP		
Soils Engineer	HD Geosolutions	**Engineer/Arch.**	Hall and Foreman		

Review of:

In-Progress Report No.: 2nd Quarter (2018) Reference Grading P.C. No.: 1504220003
Submittal Received by GMED: 11/1/18

Geologic Report(s) Dated:
Soils Engineering Report(s) Dated:
Geotechnical Report(s) Dated: **10/11/18** (2nd quarterly report for 2018)
References:

Remarks:

1. Receipt of the 2nd quarterly report for 2018 (dated 10/11/18) is acknowledged.

2. The annual report for 2018 shall include maps that overlay the information shown on Figures 2 and 4 with revised structural setbacks from the revised grading plan that is currently being reviewed.

NOTE TO THE PLAN CHECKER/BUILDING AND SAFETY ENGINEER:

A. CONDITIONS OF APPROVAL ARE PROVIDED IN GMED REVIEW SHEET DATED 7/28/16.
B. REVISED GRADING PLAN WITH REVISED STRUCTURAL SETBACKS ARE CURRENTLY BEING REVIEWED.

Prepared by

REGISTERED PROFESSIONAL ENGINEER
WILLIAM S. MAN
No. 74899
STATE OF CALIFORNIA

William Man
Soils Section

--
Geology Section

Date 3/5/19

Please complete a Customer Service Survey at http://dpw.lacounty.gov/go/gmedsurvey

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Geotechnical and Materials Engineering Division
GEOLOGIC AND SOILS ENGINEERING REVIEW SHEET
900 S. Fremont Avenue, Alhambra, CA 91803

Tract / Parcel Map		**Lot(s)**		**Parent Tract**	
Site Address	1270 Arrow Highway	**Location**	Irwindale	**APN**	8532-001-002
Geologist	HD Geosolutions	**Developer/Owner**	Irwindale Partners, LLP		
Soils Engineer	HD Geosolutions	**Engineer/Arch.**	Hall and Foreman		

Review of:

In-Progress Report No.: 1st Quarter (2018) Reference Grading P.C. No.: 1504220003
Submittal Received by GMED: 7/12/18

Geologic Report(s) Dated:
Soils Engineering Report(s) Dated:
Geotechnical Report(s) Dated: **7/12/18** (1st quarterly report for 2018)
References:

Remarks:

1. Receipt of the 1st quarterly report for 2018 (dated 7/12/18) is acknowledged.

2. The annual report for 2018 shall include maps that overlay the information shown on Figures 2 and 4 with revised structural setbacks from the revised grading plan that is currently being reviewed.

NOTE TO THE PLAN CHECKER/BUILDING AND SAFETY ENGINEER:

A. CONDITIONS OF APPROVAL ARE PROVIDED IN GMED REVIEW SHEET DATED 7/28/16.
B. REVISED GRADING PLAN WITH REVISED STRUCTURAL SETBACKS ARE CURRENTLY BEING REVIEWED.

Prepared by

REGISTERED PROFESSIONAL ENGINEER
WILLIAM S. MAN
No. 74899
STATE OF CALIFORNIA

William Man
Soils Section

--
Geology Section

Date 3/4/19

Please complete a Customer Service Survey at http://dpw.lacounty.gov/go/gmedsurvey

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Telephone: (626) 458-4925

County of Los Angeles Department of Public Works
Geotechnical and Materials Engineering Division
GEOLOGIC AND SOILS ENGINEERING REVIEW SHEET
900 S. Fremont Avenue, Alhambra, CA 91803

Tract / Parcel Map		**Lot(s)**		**Parent Tract**	
Site Address	1270 Arrow Highway	**Location**	Irwindale	**APN**	8532-001-002
Geologist	HD Geosolutions	**Developer/Owner**	Irwindale Partners, LLP		
Soils Engineer	HD Geosolutions	**Engineer/Arch.**	Hall and Foreman		

Review of:

In-Progress Report No.: Annual (2017) Reference Grading P.C. No.: 1504220003
Submittal Received by GMED: 3/30/18

Geologic Report(s) Dated:
Soils Engineering Report(s) Dated:
Geotechnical Report(s) Dated: **3/29/18 (Annual Report for 2017)**
References: 2/23/18 (3rd quarterly report for 2017)
9/28/17 (2nd quarterly report for 2017), 6/22/17 (1st quarterly report for 2017)

Remarks:

Receipt of the annual report for 2017 (dated 3/29/18) is acknowledged.

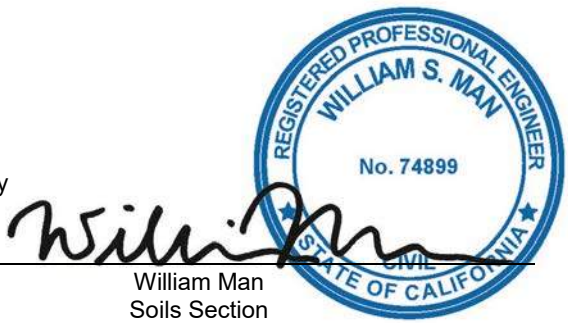
NOTE(S) TO THE PLAN CHECKER/BUILDING AND SAFETY ENGINEER:

A. CONDITIONS OF APPROVAL ARE PROVIDED IN GMED REVIEW SHEET DATED 7/28/16.

PER THE SOILS ENGINEER:

B. APPROXIMATELY 553,000 to 563,000 CUBIC YARDS OF FILL WAS PLACED DURING THIS YEAR. 27 LARGE-SCALE BULK DENSITY TESTS WERE PERFORMED AND PASSED.

Prepared by



William Man
Soils Section

--
Geology Section

Date 5/22/18

Please complete a Customer Service Survey at http://dpw.lacounty.gov/go/gmedsurvey

NOTICE: Public safety, relative to geotechnical subsurface exploration, shall be provided in accordance with current codes for excavations, inclusive of the Los Angeles County Code, Chapter 11.48, and the State of California, Title 8, Construction Safety Orders.

Dist. Office 5.06
PCA B335001
EPIC LA
Telephone: (626) 458-4925

County of Los Angeles Department of Public Works
Geotechnical and Materials Engineering Division
GEOLOGIC AND SOILS ENGINEERING REVIEW SHEET
900 S. Fremont Avenue, Alhambra, CA 91803

Tract / Parcel Map		**Lot(s)**		**Parent Tract**	
Site Address	1270 Arrow Highway	**Location**	Irwindale	**APN**	8532-001-002
Geologist	HD Geosolutions	**Developer/Owner**	Irwindale Partners, LLP		
Soils Engineer	HD Geosolutions	**Engineer/Arch.**	Hall and Foreman		

Review of:

In-Progress Report No.: 3rd Quarter (2017) Reference Grading P.C. No.: 1504220003
Submittal Received by GMED: 3/2/18

Geologic Report(s) Dated:
Soils Engineering Report(s) Dated:
Geotechnical Report(s) Dated: **2/23/18 (3rd quarterly report for 2017)**
References: 9/28/17 (2nd quarterly report for 2017), 6/22/17 (1st quarterly report for 2017)

Remarks:

Receipt of the 3rd quarterly report for 2017 (dated 2/23/18) is acknowledged.

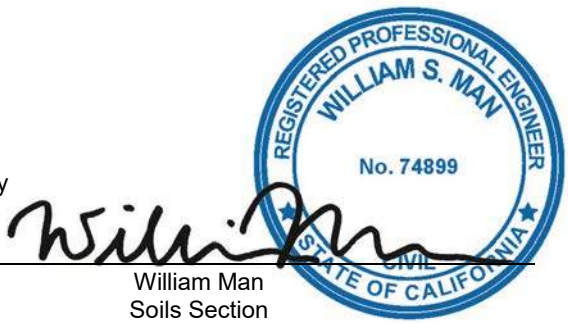
NOTE(S) TO THE PLAN CHECKER/BUILDING AND SAFETY ENGINEER:

A. CONDITIONS OF APPROVAL ARE PROVIDED IN GMED REVIEW SHEET DATED 7/28/16.

PER THE SOILS ENGINEER:

B. APPROXIMATELY 176,000 CUBIC YARDS OF FILL WAS PLACED DURING THIS QUARTER. 9 LARGE-SCALE BULK DENSITY TESTS WERE PERFORMED AND PASSED.

Prepared by



William Man
Soils Section

--
Geology Section

Date 5/16/18

Please complete a Customer Service Survey at http://dpw.lacounty.gov/go/gmedsurvey

NOTICE: Public safety, relative to geotechnical subsurface exploration, shall be provided in accordance with current codes for excavations, inclusive of the Los Angeles County Code, Chapter 11.48, and the State of California, Title 8, Construction Safety Orders.

APPENDIX E

Geophysical Test Results

REPORT

SURFACE WAVE MEASUREMENTS

1270 ARROW HIGHWAY
IRWINDALE, CALIFORNIA

GEO*Vision* Project No. 20065

Prepared for

HD Geosolutions, Inc.
9300 Oso Avenue, Unit A
Chatsworth, CA 91311
(818) 357-5845

Prepared by

GEO*Vision* Geophysical Services, Inc.
1124 Olympic Drive
Corona, California 92881
(951) 549-1234

Report 20065-01 Rev 0

March 13, 2020

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1 INTRODUCTION

In-situ seismic measurements using active-source surface wave techniques were performed at the site located at 1270 Arrow Highway, Irwindale, California on February 21 and 29, 2020. The purpose of the investigation was to provide a shear (S) wave velocity profile to a depth of 30 to 60 m (100 to 200 ft) and estimate the average S-wave velocity of the upper 30 m (V_{S30}) or 100 ft (V_{S100ft}) at four (4) locations on site. The active-source surface wave technique utilized during this investigation consisted of the multi-channel analysis of surface waves (MASW) method. The locations of the active-source surface wave testing locations are shown on Figure 1.

V_{S30} is used in the NEHRP provisions and the Uniform Building Code (UBC) to separate sites into classes for earthquake engineering design (BSSC, 2003). V_{S100ft} is used in the International Building Code (IBC) for site classification. These site classes are as follows:

Class A – hard rock – $V_{S30} > 1500$ m/s (UBC) or $V_{S100ft} > 5{,}000$ ft/s (IBC)
Class B – rock – $760 < V_{S30} \leq 1500$ m/s (UBC) or $2{,}500 < V_{S100ft} \leq 5{,}000$ ft/s (IBC)
Class C – very dense soil and soft rock – $360 < V_{S30} \leq 760$ m/s (UBC)
or $1{,}200 < V_{S100ft} \leq 2{,}500$ ft/s (IBC)
Class D – stiff soil – $180 < V_{S30} \leq 360$ m/s (UBC) or $600 < V_{S100ft} \leq 1{,}200$ ft/s (IBC)
Class E – soft soil – $V_{S30} < 180$ m/s (UBC) or $V_{S100ft} < 600$ ft/s (IBC)
Class F – soils requiring site-specific evaluation

This report contains the results of the active and passive surface wave measurements conducted at the site. An overview of the surface wave methods is given in Section 2. Field and data reduction procedures are discussed in Sections 3 and 4, respectively. Data modeling is presented in Section 5 and interpretation and results are presented in Section 6. References and our professional certification are presented in Sections 7 and 8, respectively.



Active Surface Wave Array (MASW)

NOTES:
1. Coordinate System: California State Plane, NAD83, Zone V (0405), US Survey Feet
2. Base map source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

GEOVision geophysical services

Date:	3/10/2020
GV Project:	20065
Developed by:	A Martin
Drawn by:	T Rodriguez
Approved by:	A Martin
File Name:	20065-1.MXD

FIGURE 1
SITE MAP

SITE LOCATED AT
1270 ARROW HIGHWAY
IRWINDALE, CALIFORNIA

PREPARED FOR
HD GEOSOLUTIONS, INC.

2 OVERVIEW OF SURFACE WAVE TECHNIQUES

2.1 Introduction

Active- and passive-source (ambient vibration) surface wave techniques are routinely utilized for site characterization. Active surface wave techniques include the spectral analysis of surface waves (SASW) and multi-channel array surface wave (MASW) methods. Passive surface wave techniques include the horizontal over vertical spectral ratio (HVSR) technique and the array and refraction microtremor methods.

The basis of surface wave methods is the dispersive characteristic of Rayleigh and Love waves when propagating in a layered medium. Surface waves of different wavelengths (λ) or frequencies (f) sample different depth. As a result of the variance in the shear stiffness of the distinct layers, waves with different wavelengths propagate at different phase velocities; hence, dispersion. A surface wave dispersion curve is the variation of V_R or V_L with λ or f. The Rayleigh wave phase velocity (V_R) depends primarily on the material properties (V_S, mass density, and Poisson's ratio or compression wave velocity) over a depth of approximately one wavelength. The Love wave phase velocity (V_L) depends primarily on V_S and mass density. Rayleigh and Love wave propagation are also affected by damping or seismic quality factor (Q). Rayleigh wave techniques are utilized to measure vertically polarized S-waves (S_V-wave); whereas, Love wave techniques are utilized to measure horizontally polarized S-waves (S_H-wave).

2.2 MASW Technique

A description of the MASW method is given by Park, 1999a and 1999b and Foti, 2000. Ground motions are typically recorded by 24, or more, geophones typically spaced 1 to 3 m apart along a linear array and connected to a seismograph. Energy sources for shallow investigations include various sized hammers and vehicle mounted weight drops. Larger energy sources, such as vibroseis and heavy construction equipment (e.g. bulldozers, excavators) can be used to image to greater depths. When applying the MASW technique to develop a one-dimensional (1-D) V_S model, the surface-wave data, preferably, are acquired using multiple-source offsets at both ends of the array. The most commonly applied MASW technique is the Rayleigh-wave based MASW method, which we refer to as MAS_RW to distinguish from Love-wave based MASW (MAS_LW). MAS_RW and MAS_LW acquisition can easily be combined with P- and S-wave seismic refraction acquisition, respectively. MAS_RW data are generally recorded using a vertical source and vertical geophone, but may also be recorded using a horizontal geophone with radial (in-line) orientation. MAS_LW data are recorded using transversely orientated horizontal source and transverse horizontal geophone.

A wavefield transform is applied to the time-history data to convert the seismic record from time-offset space to frequency-wavenumber (f-k) space in which the fundamental or higher surface-wave modes can be easily identified as energy maxima and picked. Frequency and/or wavenumber can easily be mapped to phase velocity, slowness, or wavelength using the following properties: $k = 2\pi/\lambda$, $\lambda = v/f$. Common wave-field transforms include: the f-k transform (a 2D fast Fourier transform), slant-stack transform (also referred to as intercept-slowness or τ-p transform and equivalent to linear Radon transform), frequency domain

beamformer, and phase-shift transform. The minimum wavelength that can be recovered from an MASW data set without spatial aliasing is equal to the minimum receiver spacing. Occasionally, SASW analysis procedures are used to extract surface wave dispersion data, from fixed receiver pairs, at smaller wavelengths than can be recovered by wavefield transformation. Construction of a dispersion curve over the wide frequency/wavelength range necessary to develop a robust V_S model while also limiting the maximum wavelength based on an established near-field criterion (e.g. Yoon and Rix, 2009; Li and Rosenblad, 2011), generally requires multiple source offsets.

Although the clear majority of MASW surveys record Rayleigh waves, it has been shown that Love wave techniques can be more effective in some environments, particularly shallow rock sites and sites with a highly attenuative, low velocity surface layer (Xia, et al., 2012; **GEO***Vision*, 2012; Yong, et al., 2013; Martin, et al., 2014). Rayleigh wave techniques, however, are generally more effective at sites where velocity gradually increases with depth because larger energy sources are readily available for generation of Rayleigh waves. Rayleigh wave techniques are also more applicable to sites with high velocity layers and/or velocity inversions because the presence of such structures is more apparent in the Rayleigh wave dispersion curves than in Love wave dispersion curves. Rayleigh wave techniques are preferable at sites with a high velocity surface layer because Love waves do not theoretically exist in such environments. Occasionally, the horizontal radial component of a Rayleigh wave may yield higher quality dispersion data than the vertical component because different modes of propagation may have more energy in one component than the other. Recording both the vertical and horizontal components of the Rayleigh wave is particularly useful at sites with complex modes of propagation or when attempting to recover multiple Rayleigh wave modes for multi-mode modeling as demonstrated in Dal Moro, et al, 2015. Joint inversion of Rayleigh and Love wave data may yield more accurate V_S models and also offer a means to investigate anisotropy, where S_V- and S_H-wave velocity are not equal, as shown in Dal Moro and Ferigo, 2011.

2.3 Surface Wave Dispersion Curve Modeling

The dispersion curves generated from the active- and/or passive-source surface wave soundings are generally combined and modeled using iterative forward and inverse modeling routines. The final model profile is assumed to represent actual site conditions. The theoretical model used to interpret the dispersion curve assumes horizontally layered, laterally invariant, homogeneous-isotropic material. Although these conditions are seldom strictly met at a site, the results of active and/or passive surface wave testing provide a good "global" estimate of the material properties along the array. The results may be more representative of the site than a borehole "point" estimate.

The surface wave forward problem is typically solved using the Thomson-Haskell transfer-matrix (Thomson, 1950; Haskell, 1953) later modified by Dunkin (1965) and Knopoff (1964), dynamic stiffness matrix (Kausel and Roësset, 1981), or reflection and transmission coefficient (Kennett, 1974) methods. All of these methods can determine fundamental- and higher-mode phase velocities, which correspond to plane waves in 2-D space. The transfer-matrix method is often used in MASW and passive surface-wave software packages, whereas the dynamic stiffness matrix is utilized in many SASW software packages. MAS_RW and/or passive surface-wave modeling may involve modeling of the fundamental mode, some form of effective mode, or multiple individual modes (multi-mode). As outlined in Roësset et al. (1991), several options

exist for forward modeling of Rayleigh wave SASW data. One formulation takes into account only fundamental mode plane Rayleigh-wave motion (called the 2-D solution), whereas another includes all stress waves (e.g. body, fundamental, and higher mode surface waves) and incorporates a generalized receiver geometry (3-D global solution) or actual receiver geometry (3-D array solution).

The fundamental mode assumption is generally applicable to modeling Rayleigh-wave dispersion data collected at normally dispersive sites, providing there are not abrupt increases in velocity or steep velocity gradients. Effective-mode or multi-mode approaches are often required for irregularly dispersive sites and sites with steep velocity gradients at shallow depth. If active and passive surface wave data are combined or $MASW$ data are combined from multiple seismic records with different source offsets and receiver gathers, then effective-mode computations are limited to algorithms that assume far-field plane Rayleigh wave propagation. Local search (e.g. linearized matrix inversion methods) or global search methods (e.g., Monte Carlo approaches such as simulated annealing, generic algorithms and neighborhood algorithm) are typically used to solve the inverse problem.

The maximum wavelength (λ_{max}) recovered from a surface wave data set is typically used to estimate the depth of investigation although a sensitivity analysis of the V_S models would be a more robust means to estimate the depth of investigation. For normally dispersive velocity profiles with a gradual increase in V_S with depth, maximum depth of investigation is on the order of $\lambda_{max}/2$ for both Rayleigh and Love wave dispersion data. Velocity profiles with an abrupt increase in V_S at depth, maximum depth of investigation is on the order of $\lambda_{max}/3$ for Rayleigh wave dispersion data but less than $\lambda_{max}/3$ for Love wave dispersion data. Depth of investigation can be highly variable for sites with complex velocity structure (e.g. high velocity layers).

As with all surface geophysical methods, inversion of surface wave dispersion data does not yield a unique V_S model and there are multiple possible solutions that may equally well fit the experimental data. Based on our experience at other sites, the shear wave velocity models (V_S and layer thicknesses) determined by surface wave testing are within 20% of the velocities and layer thicknesses that would be determined by other seismic methods (Brown, 1998). The average velocity of the upper 30 m or 100 ft, however, is much more accurate, often to better than 5%, because it is not sensitive to the layering in the model. V_{S30} does not appear to suffer from the non-uniqueness inherent in V_S models derived from surface wave dispersion curves (Martin et al., 2006, Comina et al., 2011). Therefore, V_{S30} is more accurately estimated from inversion of surface wave dispersion data than the resulting V_S models.

It may not always be possible to develop a coherent, fundamental mode dispersion curve over sufficient frequency range for modeling due to dominant higher modes with the higher modes not clearly identifiable for multi-mode modeling. It may, however, be possible to identify the Rayleigh wave phase velocity of the fundamental mode at 40 m wavelength (V_{R40}) in which case V_{S30} can at least be estimated using the Brown et al., 2000 relationship:

$$V_{S30} = 1.045 V_{R40}$$

This relationship was established based on a statistical analysis of a large number of surface wave data sets from sites with control by velocities measured in nearby boreholes and has been further evaluated by Martin and Diehl, 2004, and Albarello and Gargani, 2010. Further

investigation of this approach has revealed that V_{S30} is generally between V_{R40} and V_{R45} with V_{R40} often being most appropriate for shallow groundwater sites and V_{R45} for deep ground water sites. A detailed study of such an approach for Love wave dispersion data has not been conducted; however, preliminary analysis demonstrates that V_{S30} is generally between V_{L50} and V_{L55}. Although we do not recommend that these empirical V_{S30} estimates replace modeling of surface wave dispersion data, they do offer a means of cost effectively evaluating V_{S30} over a large area. V_{R40} or V_{L55} can also be used to quantify the error in V_{S30} by evaluating the scatter in the dispersion data at these wavelengths.

3 FIELD PROCEDURES

The MASW sounding locations at the site were selected by HD Geosolutions, Inc. personnel. All geophone and shot point locations were measured using a 100-meter tape measure. A Spectra Precision SP60 GPS unit with CenterPoint RTX differential corrections was used to survey the ends of each seismic line. The locations of the seismic arrays are shown on Figure 1 and summarized in Table 1.

The seismic data acquisition system consisted of two 24-channel Geometrics Geode signal enhancement seismographs combined to form a 48-channel system and a laptop computer running Geometrics Seismodule Controller Software. Other seismic equipment consisted of 4.5 Hz vertical geophones, seismic cable, a 4 lb hammer, 12 lb sledgehammer, 240 lb accelerated weight drop (AWD), and Caterpillar D10R Bulldozer (D10R).

MASW data were acquired along a linear array of 48 geophones spaced 6.6 to 9.0 ft (2 to 2.75 m) apart for an array length of 308.4 to 424.0 ft (94 to 129.25 m). Source locations were generally positioned between 6.6 and 262.5 ft (2 and 80 m) from the end geophone locations, depending on available space, and at nominal 8 geophone intervals in the interior of the array. The 4 lb hammer was used for the near offset source locations and several interior source locations on Array 4. The 12 lb sledgehammer was used for the near offset source locations and interior source locations at nominal 8 geophone intervals for Arrays 1 to 4. The AWD was used for all source locations offset within 98.4 ft (30 m) from the ends of the array and selected interior source locations. Data from the transient impacts (hammers and AWD) were generally averaged 10 to 20 times to improve the signal-to-noise ratio.

At source offsets of 98.4 ft (30 m), or greater, he D10R was utilized as a seismic energy source in two manners: 1) by moving back and forth in place for 5 to 15 minutes with seismic data saved as multiple 30 second seismic records and 2) by striking the ground with the blade and saving the seismic data from 10 to 20 blade drops as individual files. All field data were saved to hard disk and documented on field data acquisition forms.

Table 1 Seismic Line Geometry

Name		Easting (US Feet)	Northing (US Feet)	Elevation (Feet)
Array 1	NW End	6567102.1	1863472.3	374.6
	SE End	6567492.3	1863307.2	374.8
Array 2	NW End	6566704.9	1862654.7	389.3
	SE End	6567071.2	1862535.2	390.1
Array 3	NW End	6565569.9	1863085.6	386.6
	SE End	6565925.1	1862937.1	386.8
Array 4	SW End	6565030.3	1863304.2	382.2
	NE End	6565229.7	1863539.2	382.7

Notes:

1. Coordinates in California State Plane Coordinate System, NAD83, Zone 405,US Survey Feet.

4 DATA REDUCTION

The MASW data acquired using hammer and AWD energy sources were reduced using the software Seismic Pro Surface V9.0 developed by Geogiga and multiple in-house scripts for various data extraction and formatting tasks, with all data reduction documented in a Microsoft Excel spreadsheet.

The following steps were used for data reduction:

- Input seismic records to be used for analysis into software package.
- Check and correct source and receiver geometry as necessary.
- Select offset range used for analysis (multiple offset ranges utilized for each seismic record as discussed below) and document in spreadsheet.
- Apply phase shift transform to seismic record to convert the data from time – offset to frequency – phase velocity space.
- Identify, pick, save, and document dispersion curve.
- Change the receiver offset range and repeat process.
- Repeat process for all seismic records.
- Use in-house script to apply near-field criteria with maximum wavelength set equal to the source to midpoint of receiver array distance.
- Use in-house script to merge multiple dispersion curves extracted from the MASW data collected along each seismic line for a specific source type (different source locations, different receiver offset ranges, etc.).
- Edit dispersion data, as necessary (e.g. delete poor quality curves and outliers).
- Calculate a representative dispersion curve at equal log-frequency or log-wavelength spacing for the MASW dispersion data using a moving average, polynomial curve fitting routine.

This unique data reduction strategy, which can involve the combination of over 100 dispersion curves for a 1D sounding, is designed for characterizing sites with complex velocity structure that do not yield surface wave dispersion data over a wide frequency range from a single source type or source location. The data reduction strategy ensures that the dispersion curve selected for modeling is representative of average conditions beneath the array and spans as broad a frequency/wavelength range as possible while considering near field effects.

A similar procedure was used to reduce the MASW data collected using the bulldozer energy source with the following two modifications. First, a cosine taper was applied to the seismic records before the wavefield transform. Secondly, because data could not be stacked in the time domain, frequency-phase velocity data resulting from the wavefield transform of each data file were stacked prior to picking the dispersion data.

5 DATA MODELING

Surface wave data were modeled using the fundamental or effective mode modeling routines in the Geometrics, Inc. Seisimager WaveEq module and/or WinSASW V3. The final composite representative dispersion curve was loaded into the inverse modeling software package and data modeled using the fundamental or effective mode solution. During this process, an initial velocity model was generated based on general characteristics of the dispersion curve and the inverse modeling routine utilized to adjust the layer V_S until an acceptable agreement with the observed data was obtained. Layer thicknesses were adjusted, and the inversion process repeated until a V_S model was developed with low RMS error between the observed and calculated dispersion curves. In many cases, once an acceptable V_S model was developed, layer thicknesses are again adjusted, and the inversion process repeated to develop an ensemble of V_S models with similar RMS error to quantify non-uniqueness. The primary purpose of this investigation was to estimate V_{S30}, which is insensitive to model non-uniqueness, and it was not considered necessary to develop an ensemble of velocity models. Data inputs into the modeling software include layer thickness, S-wave velocity, P-wave velocity or Poisson's ratio, and mass density. P-wave velocity and mass density only have a very small influence (i.e. less than 10%) on the S-wave velocity model generated from a surface wave dispersion curve. However, realistic assumptions for P-wave velocity, which is significantly impacted by the location of the saturated zone, and mass density will slightly improve the accuracy of the S-wave velocity model.

The Rayleigh wave dispersion curves from Arrays 1, 3, and 4 were modeled using the effective mode routine (3D solution) in the WinSASW software package. The Rayleigh wave dispersion curve from Array 2 was modeled using the truncated fundamental mode routine (2D solution) in the WinSASW software package.

Constant mass density values of 118 to 130 lb/ft^3 (1.89 to 2.08 g/cm^3) were used in the velocity profiles for subsurface soils/rock depending on P- and S-wave velocity. Within the normal range encountered in geotechnical engineering, variation in mass density has a negligible (±2%) affect on the estimated V_S from surface wave dispersion data. During modeling of Rayleigh wave dispersion data, the compression wave velocity, V_P, for unsaturated sediments was estimated using a Poisson's ratio, ν, of 0.333 and the relationship:

$$V_P = V_S \left[(2(1-\nu))/(1-2\nu)\right]^{0.5}$$

Poisson's ratio has a larger affect than density on the estimated V_S from Rayleigh wave dispersion data. Achenbach (1973) provides an approximate relationship between Rayleigh wave velocity (V_R), V_S and ν:

$$V_R = V_S \left[(0.862 + 1.14\,\nu)/(1+\nu)\right]$$

Using this relationship, it can be shown that V_S derived from V_R only varies by about 10% over possible 0 to 0.5 range for Poisson's ratio where:

$V_S = 1.16V_R$ for $\nu = 0$
$V_S = 1.05V_R$ for $\nu = 0.5$

6 INTERPRETATION AND RESULTS

6.1 Array 1

The fit of the calculated effective mode dispersion curve to the observed dispersion curve from Array 1 and the modeled V_S profile is presented as Figure 2. The resolution decreases gradually with depth due to the loss of sensitivity of the dispersion curve to changes in V_S at greater depths. The scatter in the dispersion data reflects lateral velocity variability beneath the array. The V_S profile used to match the field data is provided in tabular form in both metric and Imperial units as Tables 2 and 3, respectively. The primary purpose of this investigation was to estimate V_{S30} and, therefore, only a single V_S model is presented to represent average subsurface velocity structure beneath the array. The estimated depth of investigation for the Array 1 surface wave sounding is about 197 ft (60 m).

The V_S model indicates that S-wave velocity gradually increases with depth from about 820 ft/s (250 m/s) at the surface to 1,935 ft/s (590 m/s) at a depth of 33 ft (10 m). Below a depth of 33 ft (10 m), average S-wave velocity is relatively uniform varying from about 1,935 to 2,070 ft/s (590 to 630 m/s). The V_S model reflects average velocity conditions beneath the array, and it is plausible that miner velocity inversions exist at depth.

The average shear wave velocity to a depth of 30 m (V_{S30}) is 495 m/s (1,622 ft/s) for the V_S model. The average shear wave velocity to a depth of 100 ft (V_{S100ft}) is 1,628 ft/s. Therefore, according to the NEHRP provisions of the Uniform Building Code, the site is classified as Site Class C, very dense soil and soft rock.

6.2 Array 2

The fit of the calculated effective mode dispersion curve to the observed dispersion curve from Array 2 and the modeled V_S profile is presented as Figure 3. The resolution decreases gradually with depth due to the loss of sensitivity of the dispersion curve to changes in V_S at greater depths. The scatter in the dispersion data reflects lateral velocity variability beneath the array. The V_S profile used to match the field data is provided in tabular form in both metric and Imperial units as Tables 4 and 5, respectively. The primary purpose of this investigation was to estimate V_{S30} and, therefore, only a single V_S model is presented to represent average subsurface velocity structure beneath the array. The estimated depth of investigation for the Array 2 surface wave sounding is about 197 ft (60 m).

The V_S model indicates that S-wave velocity gradually increases with depth from about 890 ft/s (270 m/s) at the surface to 1,810 ft/s (550 m/s) at a depth of 23 ft (7 m). Below a depth of 23 ft (7 m), average S-wave velocity is relatively uniform varying from about 1,810 to 2,015 ft/s (550 to 615 m/s). The V_S model reflects average velocity conditions beneath the array, and it is plausible that miner velocity inversions exist at depth.

The average shear wave velocity to a depth of 30 m (V_{S30}) is 476 m/s (1,562 ft/s) for the V_S model. The average shear wave velocity to a depth of 100 ft (V_{S100ft}) is 1,566 ft/s. Therefore, according to the NEHRP provisions of the Uniform Building Code, the site is classified as Site Class C, very dense soil and soft rock.

Table 2 Array 1 Vs Model (Metric Units)

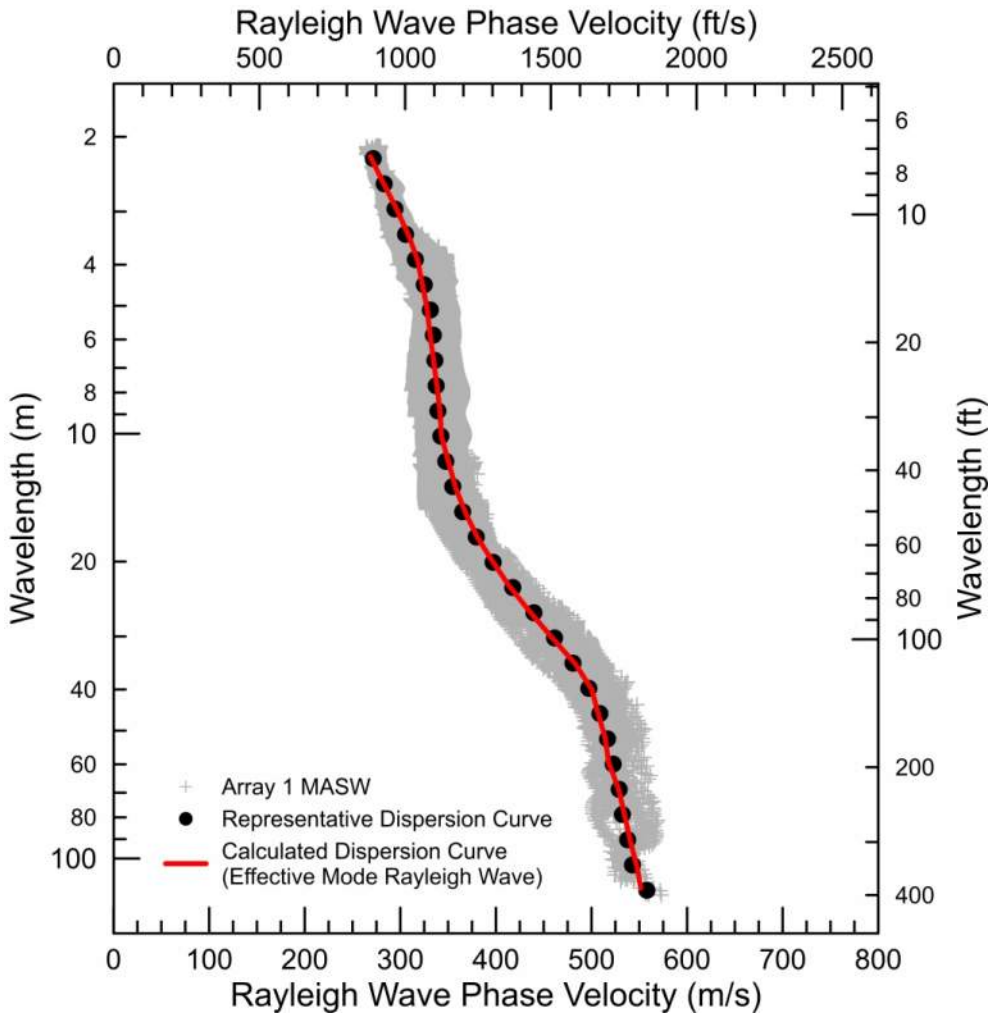
Depth to Top of Layer (m)	Layer Thickness (m)	S-Wave Velocity (m/s)	Inferred P-Wave Velocity (m/s)	Inferred Poisson's Ratio	Assumed Density (g/cm^3)
0	1	250	500	0.333	1.89
1	3	379	758	0.333	1.96
4	6	393	786	0.333	1.98
10	15	590	1180	0.333	2.06
25	21	620	1241	0.333	2.07
46	Half Space	630	1261	0.333	2.08

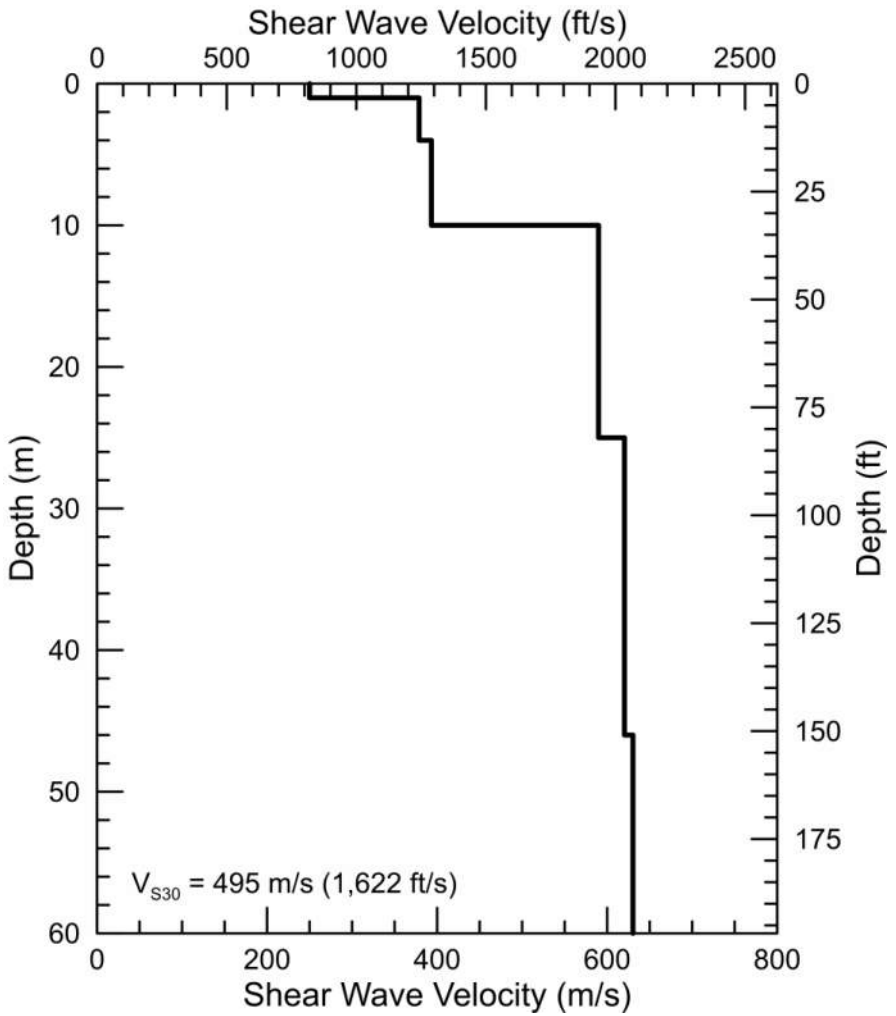
Table 3 Array 1 Vs Model (Imperial Units)

Depth to Top of Layer (ft)	Layer Thickness (ft)	S-Wave Velocity (ft/s)	Inferred P-Wave Velocity (ft/s)	Inferred Poisson's Ratio	Assumed Density (lb/ft^3)
0.0	3.3	820	1640	0.333	118
3.3	9.8	1243	2485	0.333	122
13.1	19.7	1290	2580	0.333	124
32.8	49.2	1935	3870	0.333	129
82.0	68.9	2035	4071	0.333	129
150.9	Half Space	2068	4136	0.333	130

Table 4 Array 2 Vs Model (Metric Units)

Depth to Top of Layer (m)	Layer Thickness (m)	S-Wave Velocity (m/s)	Inferred P-Wave Velocity (m/s)	Inferred Poisson's Ratio	Assumed Density (g/cm^3)
0	3	272	544	0.333	1.91
3	4	369	738	0.333	1.96
7	10	552	1103	0.333	2.03
17	30	565	1130	0.333	2.04
47	Half Space	614	1228	0.333	2.06

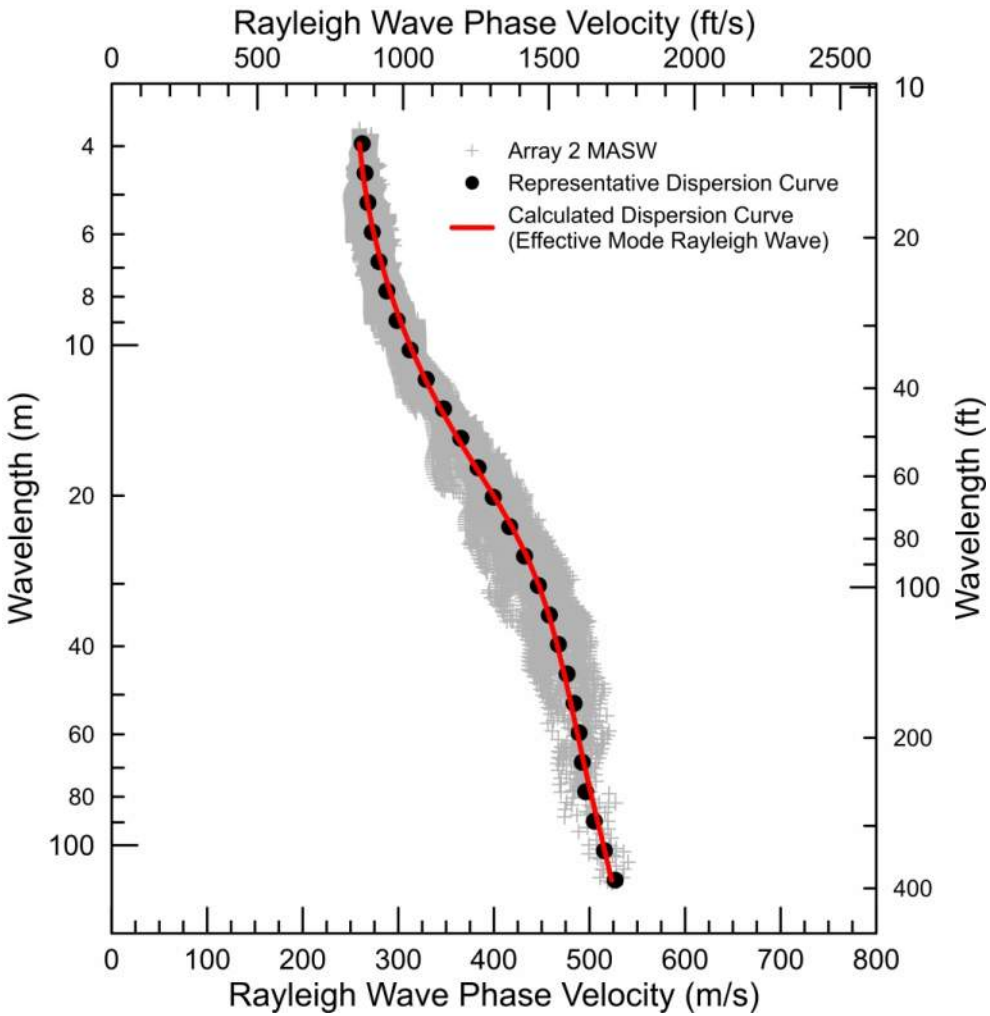


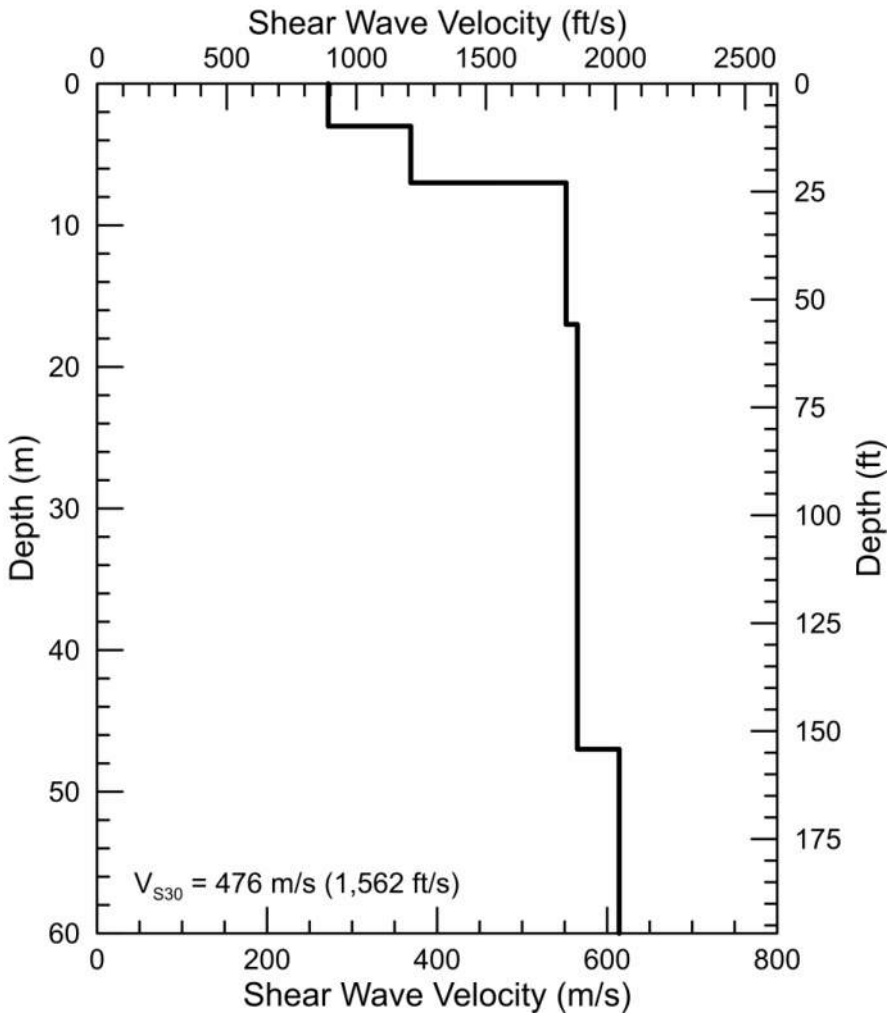


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Project No: 20065	FIGURE 2 SURFACE WAVE MODEL - ARRAY 1
Date: Mar 13, 2020	1270 ARROW HIGHWAY IRWINDALE, CALIFORNIA
Drawn By: A MARTIN	PREPARED FOR HD GEOSOLUTIONS, INC.
Approved By: Antony J Martin	

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GEOVision geophysical services

Project No: 20065	FIGURE 3 SURFACE WAVE MODEL - ARRAY 2
Date: Mar 13, 2020	1270 ARROW HIGHWAY IRWINDALE, CALIFORNIA
Drawn By: A MARTIN	PREPARED FOR HD GEOSOLUTIONS, INC.
Approved By: Antony J Martin	

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6.3 Array 3

The fit of the calculated effective mode dispersion curve to the observed dispersion curve from Array 3 and the modeled V_S profile is presented as Figure 4. The resolution decreases gradually with depth due to the loss of sensitivity of the dispersion curve to changes in V_S at greater depths. The scatter in the dispersion data reflects lateral velocity variability beneath the array. The V_S profile used to match the field data is provided in tabular form in both metric and Imperial units as Tables 6 and 7, respectively. The primary purpose of this investigation was to estimate V_{S30} and, therefore, only a single V_S model is presented to represent average subsurface velocity structure beneath the array. The estimated depth of investigation for the Array 1 surface wave sounding is about 197 ft (60 m).

The V_S model indicates that S-wave velocity gradually increases with depth from about 970 ft/s (295 m/s) at the surface to 1,555 ft/s (475 m/s) at a depth of 13 ft (4 m). Between a depth of 13 and 151 ft (4 and 46 m), average S-wave velocity is relatively uniform varying from about 1,555 to 1,690 ft/s (475 to 515 m/s). As indicated in the V_S model, minor velocity inversions are plausible over this depth range. Modeled S-wave velocity increases to about 2,120 ft/s (645 m/s) at a depth of about 151 ft (46 m).

The average shear wave velocity to a depth of 30 m (V_{S30}) is 460 m/s (1,509 ft/s) for the V_S model. The average shear wave velocity to a depth of 100 ft (V_{S100ft}) is 1,511 ft/s. Therefore, according to the NEHRP provisions of the Uniform Building Code, the site is classified as Site Class C, very dense soil and soft rock.

6.4 Array 4

The fit of the calculated effective mode dispersion curve to the observed dispersion curve from Array 4 and the modeled V_S profile is presented as Figure 5. The resolution decreases gradually with depth due to the loss of sensitivity of the dispersion curve to changes in V_S at greater depths. The scatter in the dispersion data reflects lateral velocity variability beneath the array. The V_S profile used to match the field data is provided in tabular form in both metric and Imperial units as Tables 8 and 9, respectively. The primary purpose of this investigation was to estimate V_{S30} and, therefore, only a single V_S model is presented to represent average subsurface velocity structure beneath the array. The estimated depth of investigation for the Array 1 surface wave sounding is about 131 ft (40 m).

The V_S model indicates that S-wave velocity gradually increases with depth from about 945 ft/s (290 m/s) at the surface to 1,535 ft/s (465 m/s) at a depth of 13 ft (4 m). Between a depth of 13 and 112 ft (4 and 34 m), average S-wave velocity is relatively uniform varying from about 1,465 to 1,535 ft/s (445 to 465 m/s). As indicated in the V_S model, minor velocity inversions are plausible over this depth range. Modeled S-wave velocity increases to about 1,910 ft/s (580 m/s) at a depth of about 112 ft (34 m).

The average shear wave velocity to a depth of 30 m (V_{S30}) is 425 m/s (1,395 ft/s) for the V_S model. The average shear wave velocity to a depth of 100 ft (V_{S100ft}) is 1,397 ft/s. Therefore, according to the NEHRP provisions of the Uniform Building Code, the site is classified as Site Class C, very dense soil and soft rock.

Table 5 Array 2 V_S Model (Imperial Units)

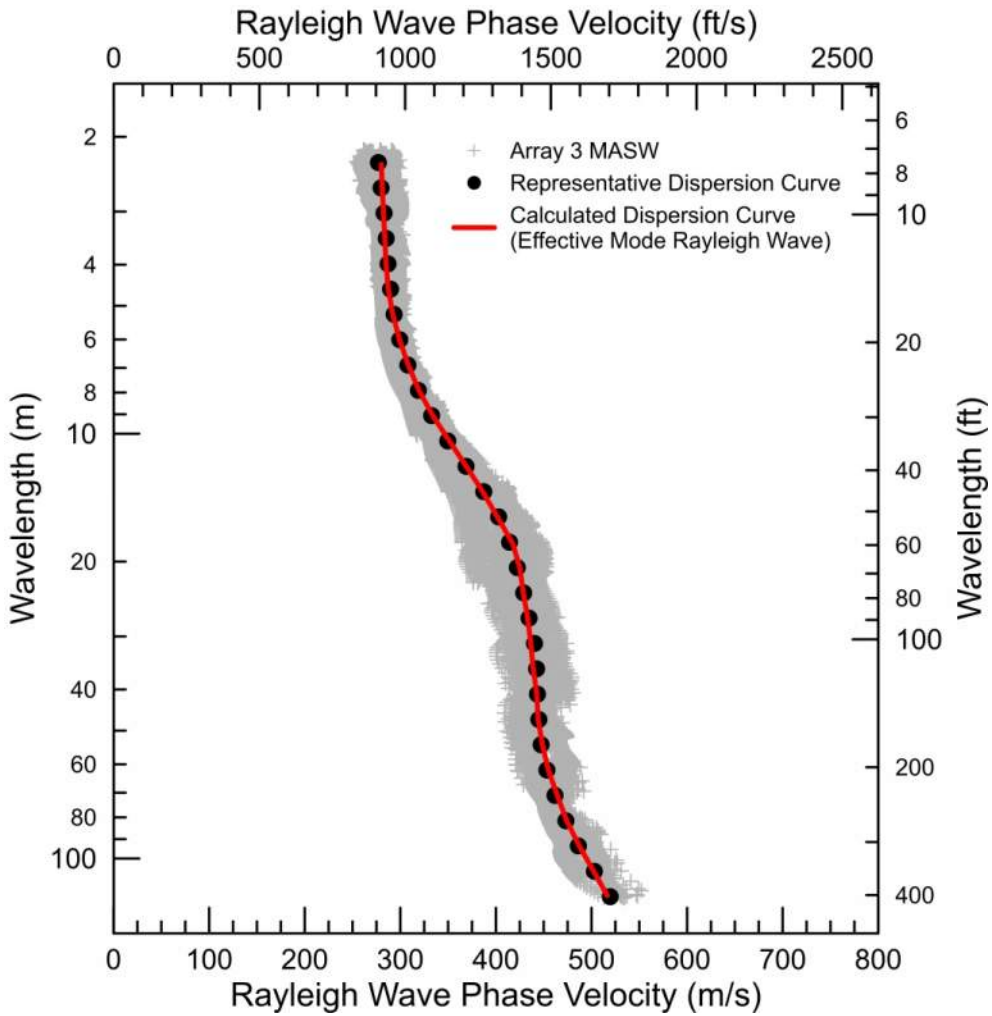
Depth to Top of Layer (ft)	Layer Thickness (ft)	S-Wave Velocity (ft/s)	Inferred P-Wave Velocity (ft/s)	Inferred Poisson's Ratio	Assumed Density (lb/ft^3)
0.0	9.8	892	1784	0.333	119
9.8	13.1	1211	2421	0.333	122
23.0	32.8	1810	3620	0.333	127
55.8	98.4	1854	3707	0.333	127
154.2	Half Space	2015	4030	0.333	129

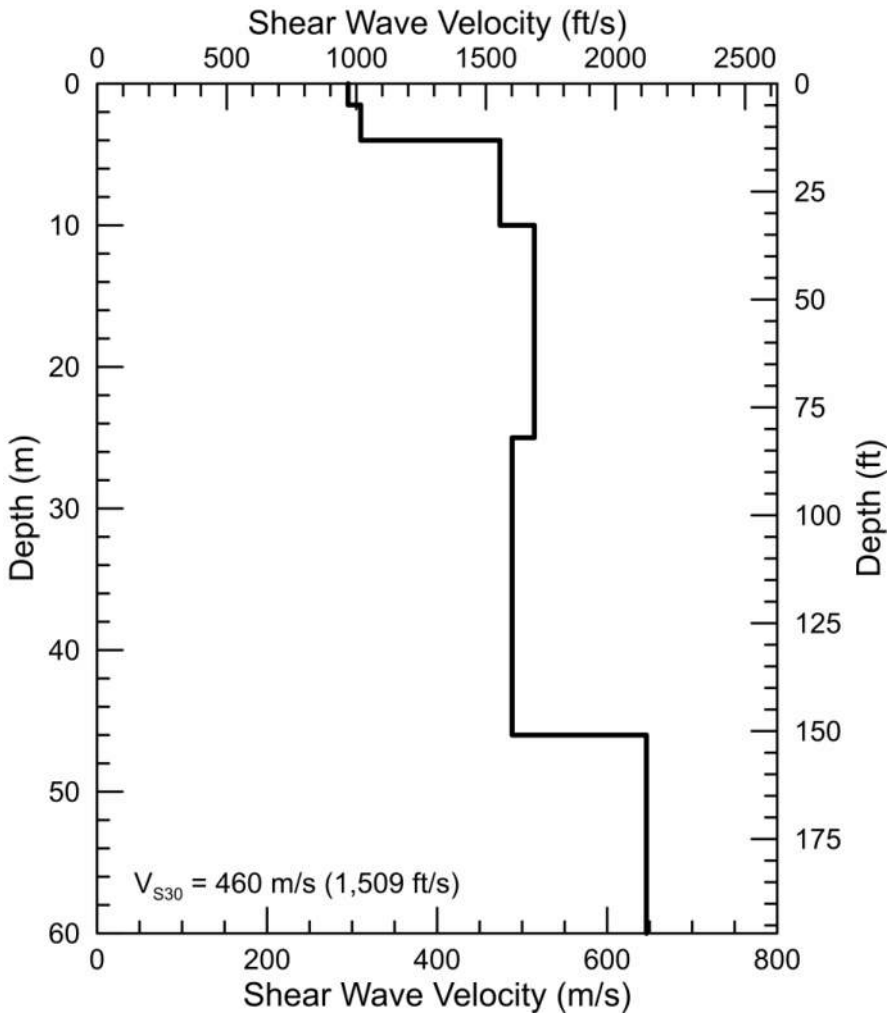
Table 6 Array 3 V_S Model (Metric Units)

Depth to Top of Layer (m)	Layer Thickness (m)	S-Wave Velocity (m/s)	Inferred P-Wave Velocity (m/s)	Inferred Poisson's Ratio	Assumed Density (g/cm^3)
0	1.5	295	591	0.333	1.92
1.5	2.5	310	620	0.333	1.93
4	6	474	948	0.333	2.01
10	15	514	1029	0.333	2.02
25	21	488	977	0.333	2.01
46	Half Space	646	1292	0.333	2.07

Table 7 Array 3 V_S Model (Imperial Units)

Depth to Top of Layer (ft)	Layer Thickness (ft)	S-Wave Velocity (ft/s)	Inferred P-Wave Velocity (ft/s)	Inferred Poisson's Ratio	Assumed Density (lb/ft^3)
0.0	4.9	969	1937	0.333	120
4.9	8.2	1017	2035	0.333	120
13.1	19.7	1555	3110	0.333	125
32.8	49.2	1687	3375	0.333	126
82.0	68.9	1602	3204	0.333	125
150.9	Half Space	2120	4240	0.333	129





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Project No: 20065	FIGURE 4 SURFACE WAVE MODEL - ARRAY 3
Date: Mar 13, 2020	1270 ARROW HIGHWAY IRWINDALE, CALIFORNIA
Drawn By: A MARTIN	PREPARED FOR HD GEOSOLUTIONS, INC.
Approved By: Antony J Martin	

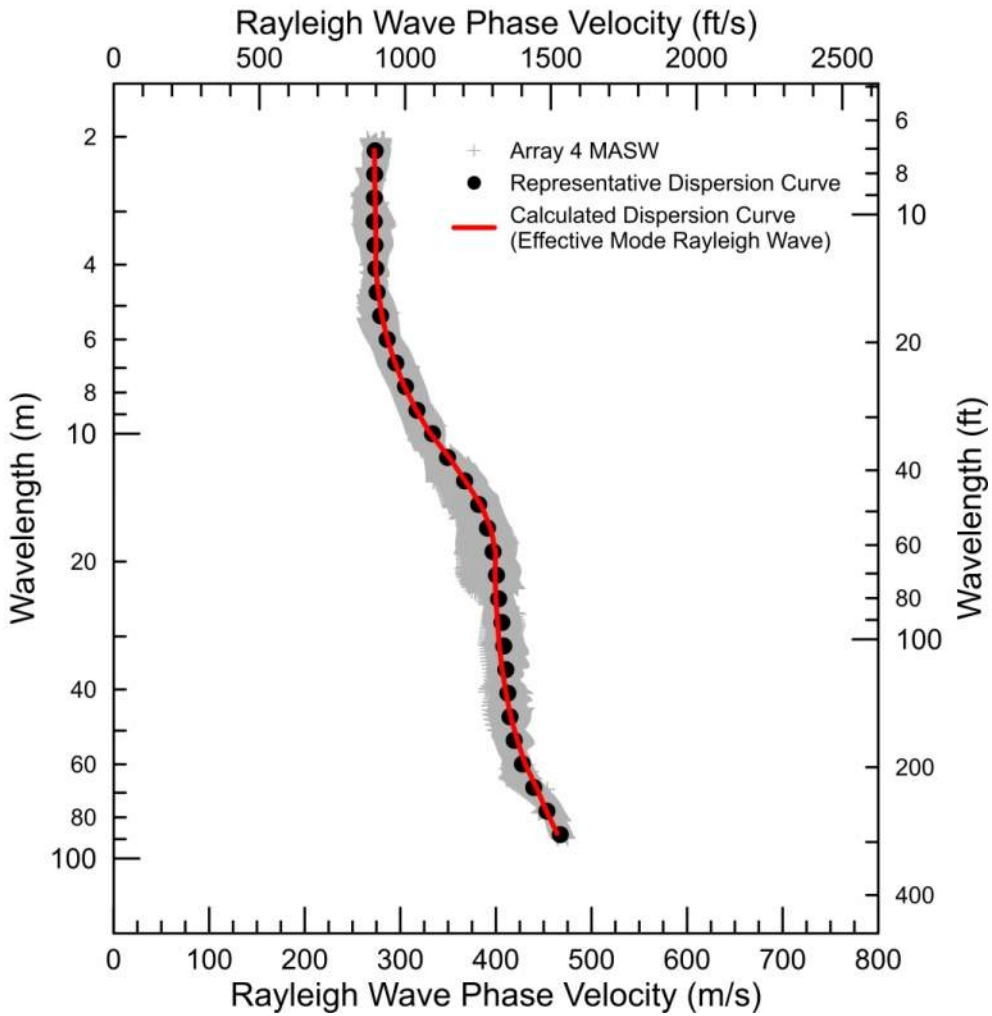
R:\GVProjects\2020\20065\HDGEO\Report\Figure 4.cdr

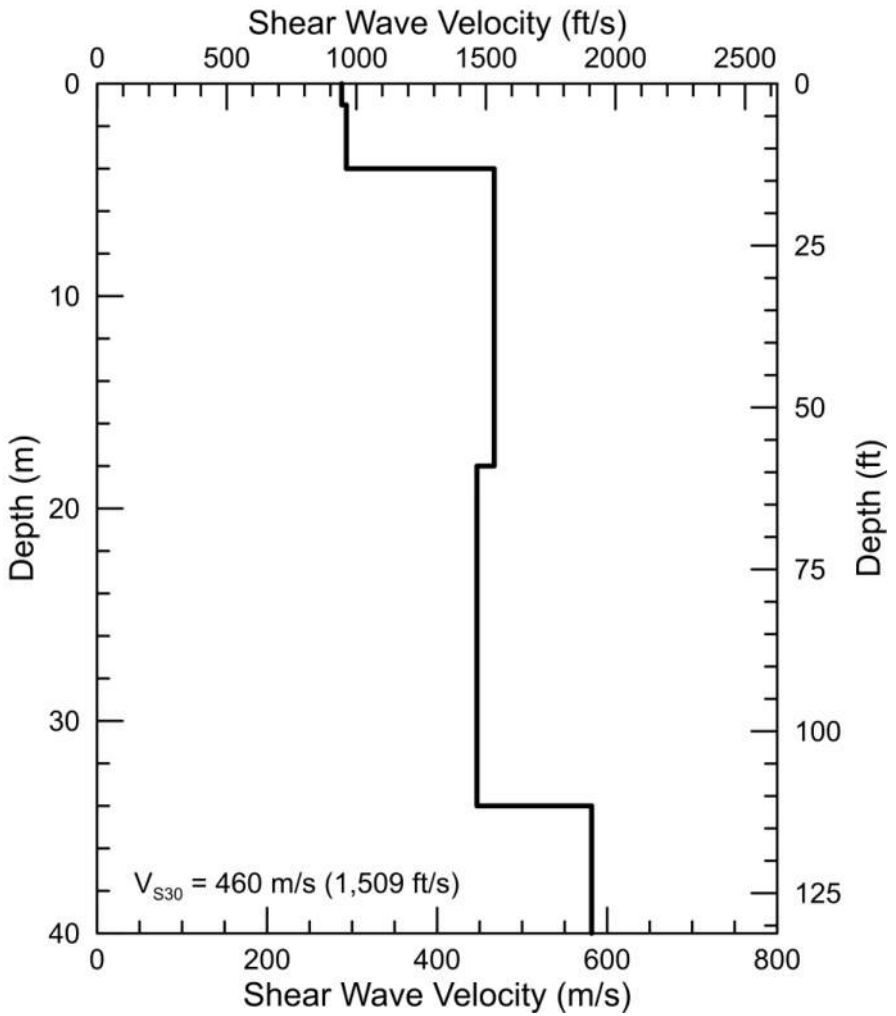
Table 8 Array 4 Vs Model (Metric Units)

Depth to Top of Layer (m)	Layer Thickness (m)	S-Wave Velocity (m/s)	Inferred P-Wave Velocity (m/s)	Inferred Poisson's Ratio	Assumed Density (g/cm^3)
0	1	288	576	0.333	1.91
1	3	293	587	0.333	1.91
4	14	467	934	0.333	2.01
18	16	447	894	0.333	2.00
34	Half Space	582	1164	0.333	2.05

Table 9 Array 4 Vs Model (Imperial Units)

Depth to Top of Layer (ft)	Layer Thickness (ft)	S-Wave Velocity (ft/s)	Inferred P-Wave Velocity (ft/s)	Inferred Poisson's Ratio	Assumed Density (lb/ft^3)
0.0	3.3	944	1888	0.333	119
3.3	9.8	962	1924	0.333	119
13.1	45.9	1533	3065	0.333	125
59.1	52.5	1466	2932	0.333	125
111.5	Half Space	1908	3817	0.333	128





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Project No: 20065	FIGURE 5 SURFACE WAVE MODEL - ARRAY 4
Date: Mar 13, 2020	1270 ARROW HIGHWAY IRWINDALE, CALIFORNIA
Drawn By: A MARTIN	PREPARED FOR HD GEOSOLUTIONS, INC.
Approved By:	

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7 SUMMARY

A multi-channel analysis of surface waves (MASW) survey was conducted at the property located at 1270 Arrow Highway, Irwindale, California on February 21 and 29, 2020 to develop S-wave velocity models to a minimum depth of 30 m (100 ft) to estimate the average S-wave velocity of the upper 30 m (V_{S30}) or 100 ft (V_{S100ft}). MASW data were acquired along four (4) arrays (Arrays 1 to 4) as shown on Figure 1.

As the primary purpose of this investigation was to estimate V_{S30}, only a single velocity model was developed for each array as V_{S30} of V_S models with the same calculated dispersion curve only varies by several percent. The V_S models for Arrays 1 to 4 are presented as Figures 2 to 5 and Tables 2 to 9, in both metric and Imperial units.

V_S exceeds 1,200 ft/s (360 m/s) at depths of between about 3 and 13 ft (1 and 4 m) in all of the velocity models and generally exceeds 1,475 ft/s (450 m/s) below a depth of 13 to 33 ft (4 to 10 m).

V_{S30} for Arrays 1 to 4 is 495, 476, 460, and 425 m/s, respectively. V_{S100ft} for Arrays 1 to 4 is 1628, 1566, 1511, and 1397 ft/s, respectively. The scatter in surface wave dispersion data for each array indicates that lateral velocity variability beneath all of the arrays is such that V_{S30} could vary by on the order of 10% beneath the arrays. According to the NEHRP provisions of the Uniform Building Code, the site is classified as Site Class C, very dense soil and soft rock.

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9 CERTIFICATION

All geophysical data, analysis, interpretations, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by a **GEO*Vision*** California Professional Geophysicist.

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3/13/2020

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* This geophysical investigation was conducted under the supervision of a California Professional Geophysicist using industry standard methods and equipment. A high degree of professionalism was maintained during all aspects of the project from the field investigation and data acquisition, through data processing interpretation and reporting. All original field data files, field notes and observations, and other pertinent information are maintained in the project files and are available for the client to review for a period of at least one year.

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