

CITY OF ALBUQUERQUE



December 16, 2011

Joseph J. Casares, Jr. P.E.
Larkin Group NM Inc.
8500 Menaul Blvd NE, Suite A-440
Albuquerque, NM 87112

**Re: Bernalillo County Paradise Hills Community Center, 5901 Paradise
Boulevard, Grading And Drainage Plan Engineer's Stamp Date 12-07-11
(B10/D011)**

Dear Mr. Casares,

PO Box 1293

Based upon the information provided in your submittal received 12-14-11, the
grading and Drainage Plan is approved for the proposed discharge into the exiting storm
drain inlet located on the south side of the project.

Albuquerque

If you have any questions, you can contact me at 924-3695.

NM 87103

www.cabq.gov

Sincerely,

Shahab Biazar, P.E.
Senior Engineer, Planning Dept.
Development and Building Service

C: file

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 12/2005)

8-10/0011

PROJECT TITLE: Bernalillo County Paradise Hills CC ZONE MAP: B-10
 DRB#: _____ EPC#: 0 WORK ORDER#: _____

LEGAL DESCRIPTION: Lot 2, Block 1, unit 6, Rio Vista addition Town of Alameda grant
 CITY ADDRESS: 5901 Paradise Blvd. 87114

ENGINEERING FIRM: Larkin Group NM, Inc. CONTACT: Joan Casares
 ADDRESS: 8500 Menaul Blvd. NE PHONE: 275-7500 ext. 116
 CITY, STATE: Alb, NM 87112 ZIP CODE: _____

OWNER: Bernalillo County - Parks dept. CONTACT: Clay Campbell
 ADDRESS: _____ PHONE: _____
 CITY, STATE: _____ ZIP CODE: _____

ARCHITECT: Sam Sturling / Jeff Chiarella CONTACT: _____
 ADDRESS: _____ PHONE: 232 2520
 CITY, STATE: _____ ZIP CODE: _____

SURVEYOR: _____ CONTACT: _____
 ADDRESS: _____ PHONE: _____
 CITY, STATE: _____ ZIP CODE: _____

CONTRACTOR: _____ CONTACT: _____
 ADDRESS: _____ PHONE: _____
 CITY, STATE: _____ ZIP CODE: _____

- TYPE OF SUBMITTAL:**
- _____ DRAINAGE REPORT
 - ☒ DRAINAGE PLAN 1st SUBMITTAL
 - _____ DRAINAGE PLAN RESUBMITTAL
 - _____ CONCEPTUAL G & D PLAN
 - ☒ GRADING PLAN
 - _____ EROSION CONTROL PLAN
 - _____ ENGINEER'S CERT (HYDROLOGY)
 - _____ CLOMR/LOMR
 - _____ TRAFFIC CIRCULATION LAYOUT
 - _____ ENGINEER'S CERT (TCL)
 - _____ ENGINEER'S CERT (DRB SITE PLAN)
 - ☒ OTHER (SPECIFY)

- CHECK TYPE OF APPROVAL SOUGHT:**
- _____ SIA/FINANCIAL GUARANTEE RELEASE
 - _____ PRELIMINARY PLAT APPROVAL
 - _____ S. DEV. PLAN FOR SUB'D APPROVAL
 - _____ S. DEV. FOR BLDG. PERMIT APPROVAL
 - _____ SECTOR PLAN APPROVAL
 - _____ FINAL PLAT APPROVAL
 - _____ FOUNDATION PERMIT APPROVAL
 - _____ BUILDING PERMIT APPROVAL
 - _____ CERTIFICATE OF OCCUPANCY (PERM)
 - _____ CERTIFICATE OF OCCUPANCY (TEMP)
 - _____ GRADING PERMIT APPROVAL
 - _____ PAVING PERMIT APPROVAL
 - _____ WORK ORDER APPROVAL
 - ☒ OTHER (SPECIFY)

*BC to increase flows to
 COA storm drain.*

*Drawing to city facility
 Approval letter*

WAS A PRE-DESIGN CONFERENCE ATTENDED:
 _____ YES
☒ NO
 _____ COPY PROVIDED

Rec'd 12-14-11

DATE SUBMITTED: _____ BY: _____

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

GRADING & DRAINAGE GENERAL NOTES

1. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER THIS CONTRACT, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON. SHALL BE CONSTRUCTED IN ACCORDANCE WITH NEW MEXICO APWA STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2006 EDITION.

2. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (260-1990), FOR LOCATION OF EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES.

3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES AND OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR WILL NOTIFY THE ARCHITECT IMMEDIATELY SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THIS WORK IS CONSIDERED INCIDENTAL TO THE PROJECT AND NO DIRECT PAYMENT WILL BE MADE THEREFOR.

4. ALL EXCAVATION SHALL BE GOVERNED BY FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH, OSHA 29 CFR 1926.650. ALL EXCAVATION, TRENCHING, AND SHORING ACTIVITIES MUST BE CARRIED OUT IN ACCORDANCE WITH OSHA 29 CFR 1926.650 SUBPART P.

5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO KNOW AND COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970".

6. CONTRACTOR SHALL SCARIFY TO A DEPTH OF 8" AND RECOMPACT SUBGRADE TO 95% MAX. DENSITY AS DETERMINED BY ASTM D-1557 UNLESS NOTED OTHERWISE FOR ALL CONCRETE WORK.

7. CONTRACTOR WILL BE RESPONSIBLE FOR FURNISHING BORROW MATERIAL OR HAULING OFF EXCESS MATERIAL. THE TRANSPORTATION AND/OR DISPOSAL OF THESE MATERIALS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OF THE PROJECT. ALL EXCAVATED MATERIAL THAT IS NOT REQUIRED TO BE REUSED MUST BE REMOVED FROM THE PROJECT AREA WITHIN FOUR (4) DAYS OF EXCAVATION.

8. NO SEPARATE PAYMENT WILL BE MADE FOR ANY HAULING OR DISPOSAL OF MATERIALS. THE TRANSPORTATION AND/OR DISPOSAL OF MATERIAL SHALL BE CONSIDERED INCIDENTAL TO PROJECT.

9. WHEN ABUTTING NEW CONCRETE TO EXISTING, CUT BACK EXISTING TO A NEAT STRAIGHT LINE AS REQUIRED TO REMOVE ANY BROKEN OR CRACKED CONCRETE, AND MATCH NEW TO EXISTING. COORDINATE WITH CONSTRUCTION NOTES. NO SEPARATE PAYMENT SHALL BE MADE FOR SAW CUTTING OF EXISTING PAVEMENT OR CONCRETE BUT SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. CUTTING OF PAVEMENT OR CONCRETE SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS.

10. EXERCISE CARE TO AVOID DISTURBING EXISTING UTILITIES, AND COORDINATE WITH THE UTILITY COMPANIES IN ORDER TO PREVENT ANY SERVICE DISRUPTION.

12. CONTRACTOR SHALL PROVIDE REASONABLE ACCESS TO TEMPORARY FACILITIES WITHIN THE PROJECT AREA DURING CONSTRUCTION.

13. WATERING FOR DUST CONTROL, AS REQUIRED, SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION AND NO MEASUREMENT OR PAYMENT SHALL BE MADE THEREFOR. CONSTRUCTION AREAS SHALL BE WATERED OR OTHERWISE KEPT DUST FREE. THE CONTRACTOR SHALL USE WATERING EQUIPMENT FOR DUST POLLUTION ABATEMENT AS DIRECTED BY THE ARCHITECT.

14. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL DEMOLITION DEBRIS. WORK MATERIALS SHALL BE DISPOSED OF IN A CITY APPROVED WASTE AREA, IN ACCORDANCE WITH ALBUQUERQUE SPECIFICATIONS, SECURED BY AND AT THE EXPENSE OF THE CONTRACTOR.

15. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ABANDONED UTILITY LINES THAT ARE EXPOSED AS A RESULT OF CONSTRUCTION UNLESS OTHERWISE DIRECTED BY THE ARCHITECT.

16. THE CONTRACTOR SHALL PROVIDE THE ARCHITECT WITH "AS-BUILT" PLANS. THE MAINTENANCE OF THESE PLANS INCLUDE AN UP TO DATE SET OF AS-BUILT PLANS FOR THE PROJECT. THESE PLANS SHALL BE KEPT CURRENT, WITHIN TWO WEEKS, AT ALL TIMES AND SHALL BE SUBJECT TO REVIEW BY THE PROJECT MANAGER THROUGHOUT THE PROJECT. THE FINAL AS-BUILT PLANS SHALL BE SUBMITTED TO THE ARCHITECT BEFORE FINAL PAYMENT IS MADE.

17. THE CONTRACTOR AGREES TO TAKE NECESSARY SAFETY PRECAUTIONS AS REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES TO PROTECT PEDESTRIAN AND VEHICULAR TRAFFIC IN THE CONSTRUCTION AREA, WHICH INCLUDE BUT ARE NOT LIMITED TO: MAINTAINING ADEQUATE WARNING SIGNS, BARRICADES, LIGHTS, GUARD FENCES, WALKS AND BRIDGES.

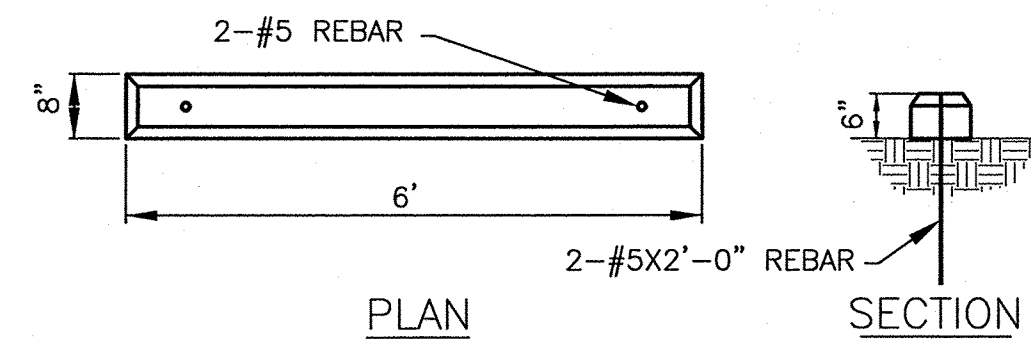
18. CONTRACTOR SHALL ADJUST CLEANOUT RIMS, VALVE CANS, GRATES AND MH COVERS LIDS AS NEEDED TO MATCH FINISHED ELEVATIONS.

19. CONTRACTOR'S YARD, AND ANY OTHER AREAS DISTURBED BY THE CONTRACTOR NOT INCLUDED ON THE PLANS, SHALL BE RE-ESTABLISHED TO OWNERS SATISFACTION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO MEASUREMENT OR PAYMENT WILL BE MADE THEREFOR.

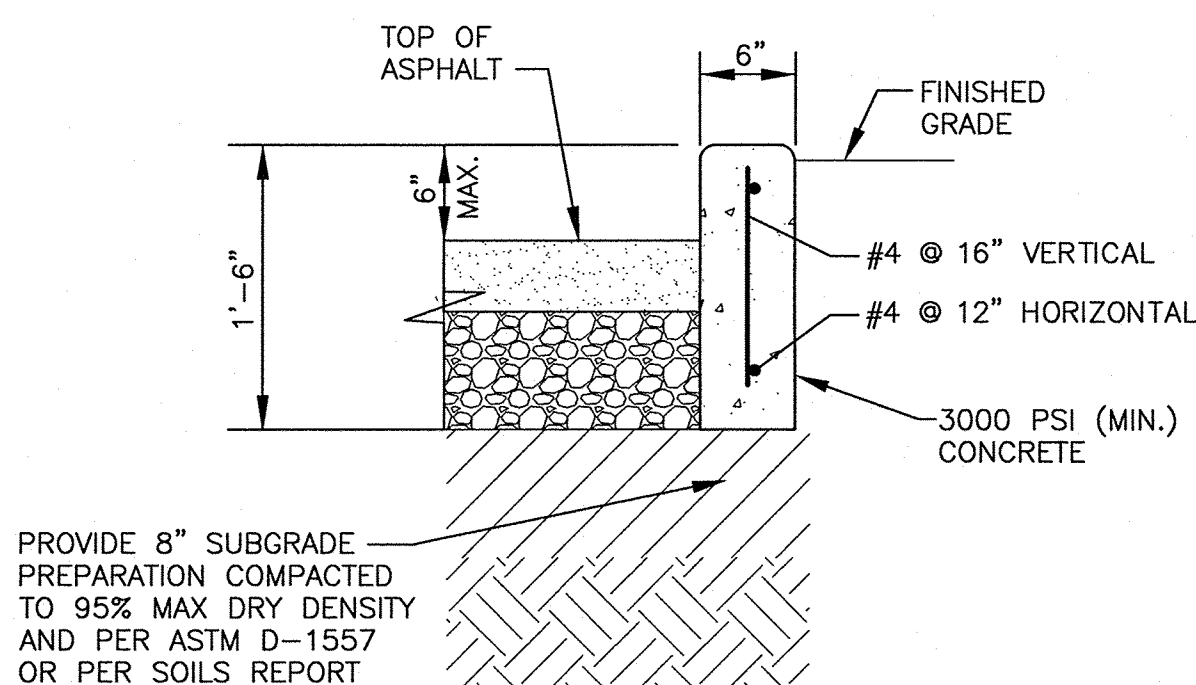
20. COORDINATE WITH GEOTECHNICAL INVESTIGATION, IF ANY CRITERIA WITHIN THIS REPORT CANNOT BE MET, CONTACT THE GEOTECHNICAL ENGINEER FOR SUPPLEMENTAL RECOMMENDATIONS.

21. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND ADHERING TO A STORMWATER POLLUTION PREVENTION PLAN IF ONE ACRE OR MORE IS DISTURBED. DISTURBANCE OF AREAS LARGER THAN 3/4 ACRES REQUIRES AN AIR QUALITY FUGITIVE DUST PERMIT FROM THE ENVIRONMENTAL HEALTH DEPARTMENT.

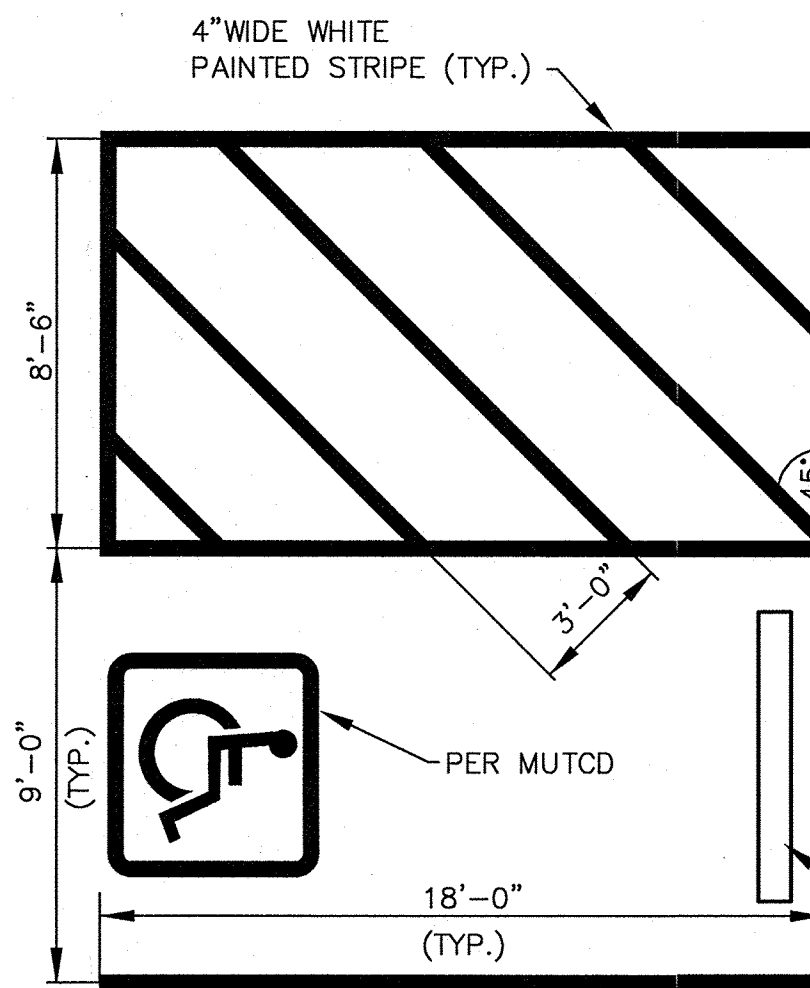
22. THIS PROJECT IS TO ADHERE TO ALL DEVELOPMENT GUIDELINES PUBLISHED BY BERNALILLO COUNTY.



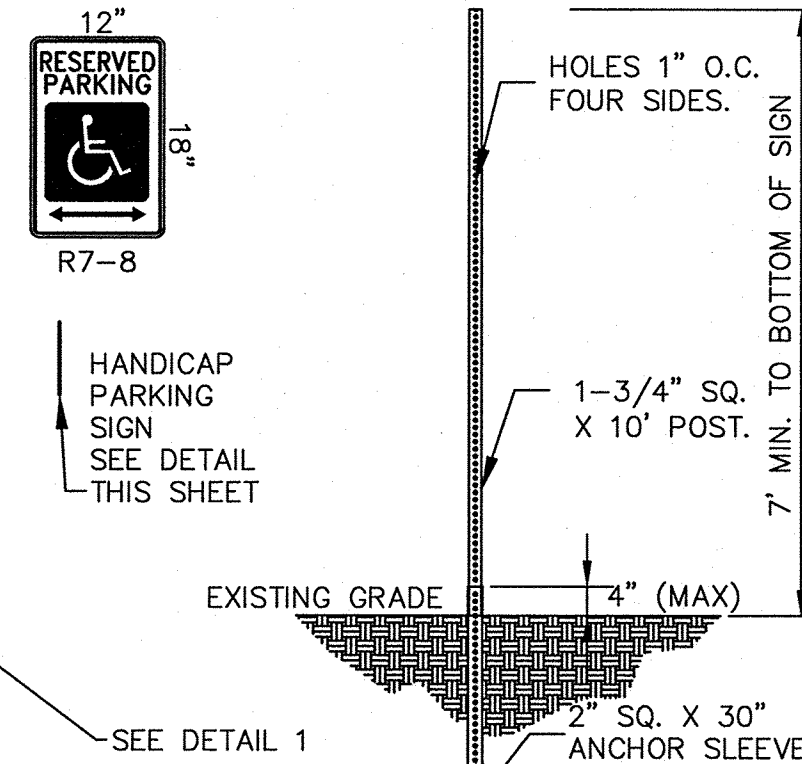
1 PARKING BUMPER
SCALE: NONE



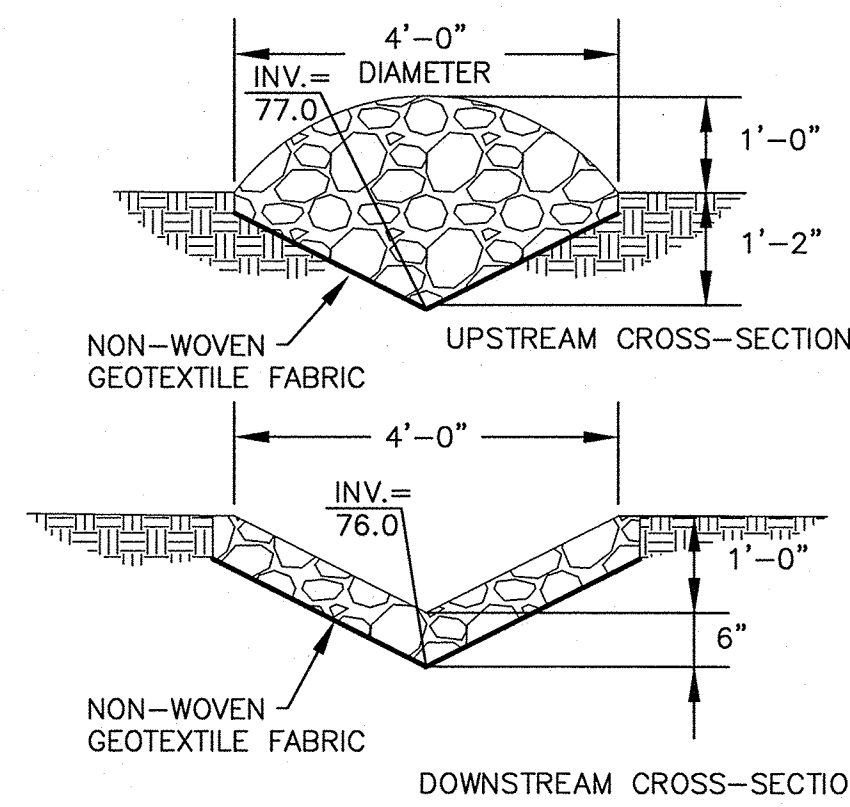
2 HEADER CURB DETAIL
SCALE: 1"=1'-0"



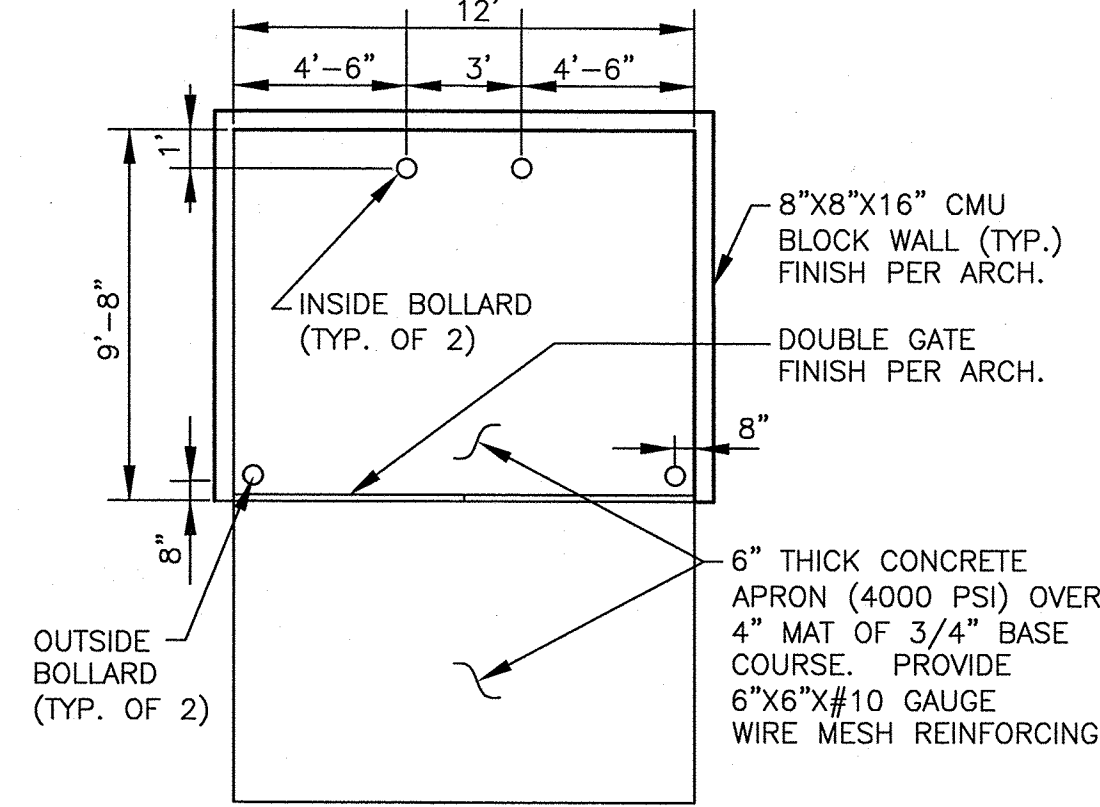
3 HC PARKING SPACE DETAIL
SCALE: 1/4" = 1'-0"



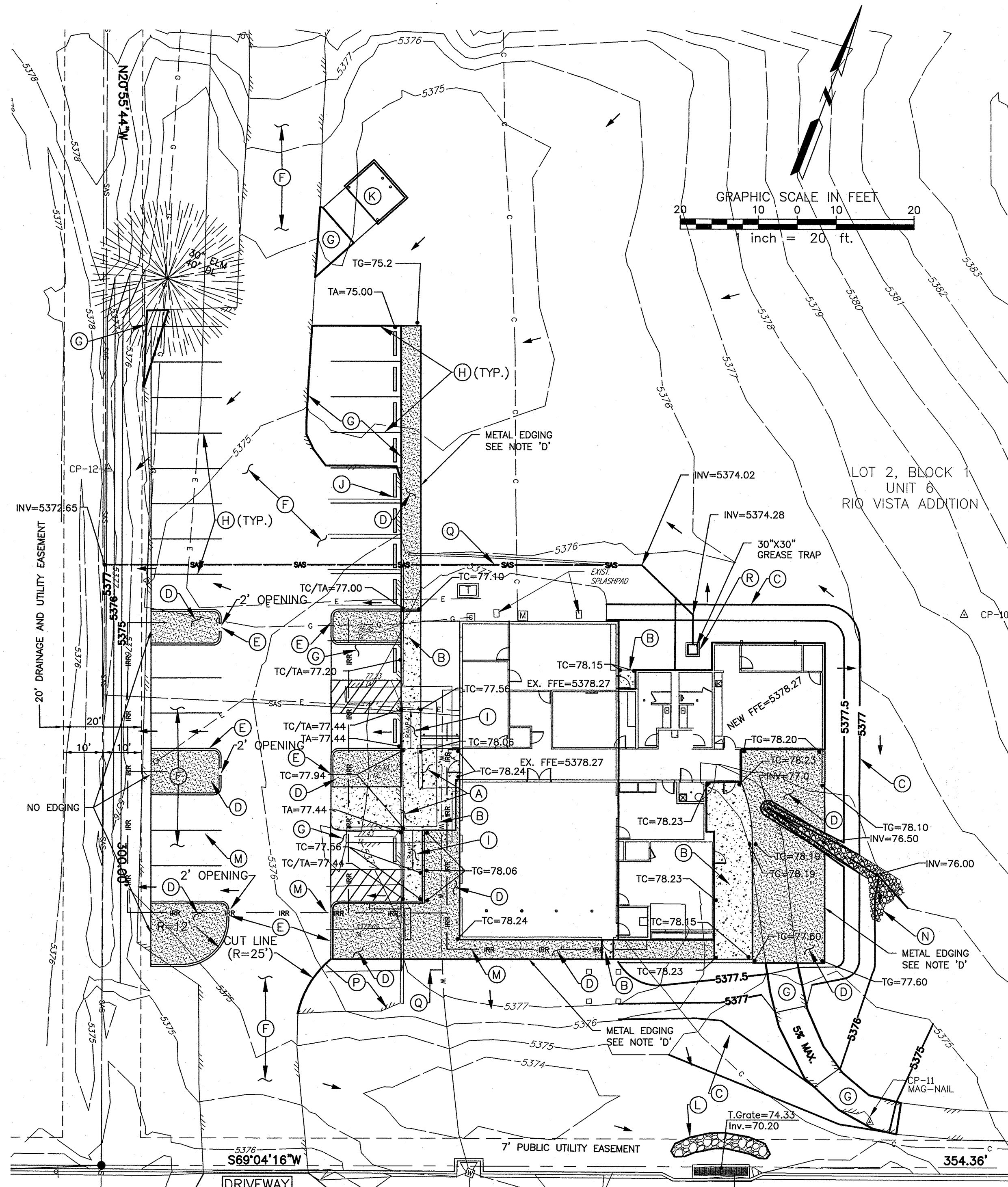
SIGN POST DETAIL
SCALE: N.T.S.



4 RIPRAP DETAIL
SCALE: 1/2"=1'-0"



5 REFUSE ENCLOSURE
SCALE: 1"=5'



LEGEND

- × 75.05 EXISTING SPOT ELEVATION
- 77.00 PROPOSED ELEVATION
- TC = TOP OF CONCRETE
- TG = TOP OF GRAVEL
- TA = TOP OF ASPHALT
- LG = LOWEST ADJACENT GRADE
- EXISTING LIGHT
- E— UNDERGROUND ELECTRIC
- G— UNDERGROUND GAS LINE
- SAS— EXISTING SANITARY SEWER LINE
- W— EXISTING WATER LINE
- C— EXISTING COMMUNICATIONS LINE
- SD— STORM DRAIN LINE
- EXISTING MANHOLE
- SURFACE FLOW DIRECTION ARROWS
- NEW CONCRETE
- LANDSCAPE GRAVEL

CONSTRUCTION NOTES

- A. REMOVE EXISTING CONCRETE AND OTHER AMENITIES AS SHOWN ON ARCHITECTS DEMOLITION PLAN.
- B. CONSTRUCT 4" THICK CONCRETE (2500 PSI) WALKWAY WITH 6" X 8" X #10 WIRE MESH. PROVIDE 6" (MAX. SPACING) SCORE JOINTS. ALSO PROVIDE 20" (MAX SPACING) EXPANSION JOINTS. SURFACE FINISH AS DIRECTED BY THE ARCHITECT.
- C. GRADE AREA PER CONTOUR ELEVATIONS SHOWN.
- D. INSTALL LANDSCAPE GRAVEL PER ARCHITECTS PLAN. PROVIDE 3/8" X 4" X 16" (SURE-LOC OR EQUAL) METAL EDGING SECTIONS.
- E. CONSTRUCT HEADER CURB PER DETAIL 2, THIS SHEET.
- * F. MILL EXISTING ASPHALT TO APPROXIMATELY 2" NOMINAL DEPTH, AND PROVIDE NEW ASPHALT OVERLAY AT 2"-3" INCHES THICK. PROVIDE THICKER ASPHALT SECTION AS REQUIRED TO MATCH PROPOSED TOP OF ASPHALT "TA" AS SHOWN ON PLAN.
- G. CONSTRUCT NEW ASPHALT, MATCH EXISTING PAVEMENT SECTION. ESTIMATED SQUARE YARDS = 195.03 SQUARE YARDS.
- H. STRIPE PARKING WITH 4" WIDE WHITE PAVEMENT PAINT, PROVIDE HANDICAP PARKING BAYS PER DETAIL 3, THIS SHEET.
- I. CONSTRUCT CONCRETE ADA COMPLIANT RAMP AT MAX. SLOPE 5%. PROVIDE DETECTABLE WARNING PLATES AS APPLICABLE (TYP.).
- J. INSTALL CONCRETE PARKING BUMPERS AS SHOWN ON PLAN AND PER DETAIL 1, THIS SHEET.
- K. CONSTRUCT REFUSE ENCLOSURE PER DETAIL 5, THIS SHEET.
- L. CONSTRUCT 4' WIDE ROCK FILTER BERM WITH 12"± NATIVE ROCK. EMBED APPROXIMATELY 12" BELOW EXISTING GRADE. TOP OF BERM TO BE 2' ABOVE EXISTING GRADE. PROVIDE NON-WOVEN GEOTEXTILE FABRIC AT RIPRAP TO GRADE INTERFACE.
- M. INSTALL 2.5" PVC IRRIGATION SLEEVE. PROVIDE 2' COVER OR PER MANUFACTURER RECOMMENDATIONS.
- N. CONSTRUCT SWALE PER DETAIL 4, THIS SHEET. INSTALL 12" NATIVE ROCK WITH NON-WOVEN GEOTEXTILE FABRIC AT RIPRAP TO GRADE INTERFACE.
- O. CUT AND REMOVE EXISTING ASPHALT. PROVIDE NEAT CURVED EDGE AS SHOWN ON PLAN.
- P. INSTALL 4" SDR35 NEW SEWER SERVICE AND TIE INTO EXISTING SEWER MAIN. FIELD VERIFY EXISTING MAIN INVERT AND PROVIDE 1/8" PER FOOT (MIN) SLOPE. COORDINATE WITH PLUMBING PLAN.
- Q. 1" WATER STUB WITH BRASS GATE VALVE.
- R. 6" CONCRETE COLLAR AROUND GREASE TRAP.

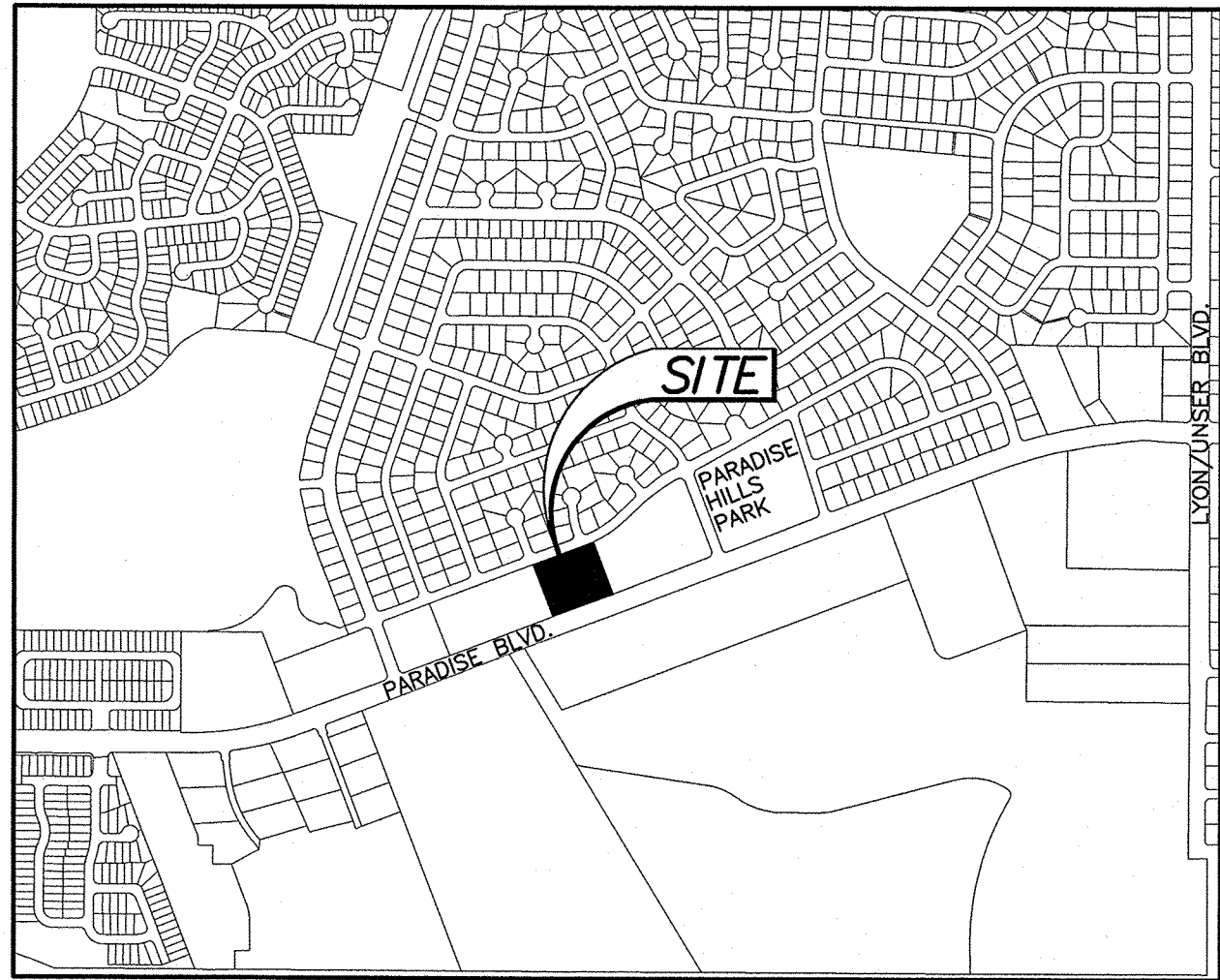
* DENOTES ADDITIVE ALTERNATE #4

BENCHMARK INFORMATION	
CP-13, #5 REBAR WITH PLASTIC CAP STAMPED	
"LARKIN GROUP CONTROL POINT",	
N=1755477.38, E=1723118.79	
ELEV.=6337.27, NAVD 1988	
DECEMBER 7, 2011	

PARADISE HILLS COMMUNITY CENTER
BERNALILLO COUNTY, NEW MEXICO

GRADING & DRAINAGE PLAN AND DETAILS

CONSULTING ENGINEERS AND SURVEYORS 8500 MENAUL BLVD. NE, SUITE A-440 ALBUQUERQUE, NEW MEXICO 87112 505-275-7500, FAX 505-275-0748 www.larkininc.com				
PROJECT NO.: 2011-0012	DRAWN: KW	CHECKED: JC	DATE: DEC. 2011	SHEET: C-101



VICINITY MAP

SCALE: 1"=1000'±

I. EXECUTIVE SUMMARY

THIS PLAN SERVES TO SUPPORT THE ADDITION TO THE BERNALILLO COUNTY'S PARADISE HILLS COMMUNITY CENTER ANNEX. THE SITE IS LOCATED IN BERNALILLO COUNTY ALONG PARADISE BOULEVARD JUST NORTH OF UNSER. THE PROPOSED CONSTRUCTION CONSISTS OF BUILDING ADDITION, PARKING LOT RE-PAVEMENT, CONCRETE WALKWAYS, DRAINAGE IMPROVEMENTS AND NEW SEWER SERVICE. NO OFF-SITE CONSTRUCTION WILL OCCUR. THE SITE WILL BE DEVELOPED CONCURRENTLY WITH NO PHASING. THE SURROUNDING LOTS ARE FULLY DEVELOPED. IT IS CONCLUDED THAT IF THE SITE IS DEVELOPED ACCORDING TO THIS PLAN, ALL STORMWATER GENERATED ON-SITE WILL BE CONVEYED TO THE EXISTING STORMDRAIN CATCH BASIN.

II. PROJECT DESCRIPTION

THE SITE IS KNOWN AS LOT 2, BLOCK 1, UNIT 6, RIO VISTA ADDITION, AND IS PLATTED IN "REPLAT OF BLOCK 1 OF UNIT 6, RIO VISTA ADDITION, A SUBDIVISION WITHIN THE TOWN OF ALAMEDA GRANT, BERNALILLO COUNTY, NEW MEXICO", FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON FEBRUARY 26, 1982, IN VOL. C19, FOLIO 95. FURTHERMORE, THE SITE IS LOCATED IN FLOOD ZONE X AS INDICATED BY FIRM NUMBER 35001C0104G, RECORDED ON SEPTEMBER 26, 2008 BY THE FEMA.

III. BACKGROUND DOCUMENTS

- THERE IS NO KNOWN DRAINAGE REPORT OR HYDROLOGICAL ANALYSIS FOR THIS SITE.
- FIRM NUMBER 35001C0104G, RECORDED ON SEPTEMBER 26, 2008 BY THE FEMA.
- CITY OF ALBUQUERQUE'S DPM SECTION 22.2.

IV. EXISTING CONDITIONS

THE SITE IS CURRENTLY DEVELOPED, WHICH INCLUDES A BUILDING, UTILITIES, PARKING LOT, WALKWAYS, RETENTION BASIN AND LANDSCAPING. THERE IS A EARTHEN BERM ALONG THE WEST LOT LINE. ALL FLOWS NATURALLY DRAIN TO THE SOUTHWEST. A LARGE AREA OVER THE EASTERN PORTION OF THE LOT IS UNDEVELOPED AND THERE IS SPARSE NATURAL VEGETATION WITHIN THIS EASTERN AREA.

V. DEVELOPED CONDITIONS

THE PROPOSED ON-SITE CONSTRUCTION CONSISTS OF A BUILDING ADDITION, PARKING LOT RE-PAVEMENT, CONCRETE WALKWAYS, DRAINAGE IMPROVEMENTS AND NEW SEWER SERVICE. IT IS PROPOSED THAT ALL OF THE STORMWATER GENERATED ON-SITE WILL BE CONVEYED TO THE EXISTING STORMDRAIN CATCH BASIN. ALL DRAINAGE STRUCTURES ARE SIZED TO ACCOMMODATE THE 100-YR 10-DAY EVENT.

VI. EROSION CONTROL

THE PROPOSED CONSTRUCTION WILL INCREASE THE AMOUNT OF IMPERVIOUS AREA BY APPROXIMATELY 2,635 SQUARE FEET. PERMANENT EROSION CONTROL AT CHANNEL OUTLETS AND SURFACE FLOW CONCENTRATION POINTS WILL CONSIST OF RIP-RAP.

VII. WATER QUALITY ENHANCEMENTS

NO WATER-QUALITY ENHANCEMENTS ARE PROPOSED.

VIII. GRADING PLAN

THE GRADING PLAN ON SHEET C-101 SHOWS:

- EXISTING GRADE SPOT ELEVATION AS TAKEN FROM THE TOPOGRAPHY SURVEY CONDUCTED BY LARKIN GROUP NM, INC.
- PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOUR LINES
- THE LIMITS AND CHARACTER OF THE EXISTING FEATURES
- THE LIMITS AND CHARACTER OF THE PROPOSED IMPROVEMENTS
- CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES

IX. CALCULATIONS

THE CALCULATIONS HEREON ANALYZE THE HYDROLOGY FOR UNDEVELOPED AND DEVELOPED CONDITIONS UPON A 100 YEAR, 10 DAY RAINFALL EVENT. THE PROCEDURE FOR 40 ACRES AND SMALLER BASINS, AS SET FORTH IN CHAPTER 22 OF THE DEVELOPMENT PROCESS MANUAL (DPM), VOLUME 1, 1997 REVISIONS, IS USED TO QUANTIFY THE PEAK RATE OF DISCHARGE (Q) AND VOLUME (V) OF ON-SITE STORMWATER. CALCULATIONS FOR HYDRAULIC CAPACITIES (Q) OF ALL SITE DRAINAGE AMENITIES ARE ALSO PRESENTED HEREON.

HYDROLOGY ANALYSIS FOR PEAK RATE OF DISCHARGE (Q) AND PEAK VOLUME (V):

SITE CHARACTERISTICS:
DRAINAGE AREA = (SEE DRAINAGE AREA POST-DEVELOPMENT MAP)
LAND TREATMENT (PER VOL. I, CHAPTER 22 OF DPM):
IMPERVIOUS = D
PERVIOUS = B
PRECIPITATION ZONE = 1 (PER VOL. I, CHAPTER 22 OF DPM)

PRE DEVELOPMENT:

DRAINAGE AREA = 90,695 SF
69,971 sf = 77.15% PERVIOUS
20,724 sf = 22.85% IMPERVIOUS
ANALYSIS RESULTS
Q = 5.34 cfs
V = 9,838 cf (DRAINS TO EXISTING CATCH BASIN)

POST DEVELOPMENT:

DRAINAGE AREA = 90,695 SF
67,336 sf = 74.24% PERVIOUS
23,359 sf = 25.76% IMPERVIOUS
ANALYSIS RESULTS
Q = 5.48 cfs
V = 10,447 cf (DRAINS TO EXISTING CATCH BASIN)

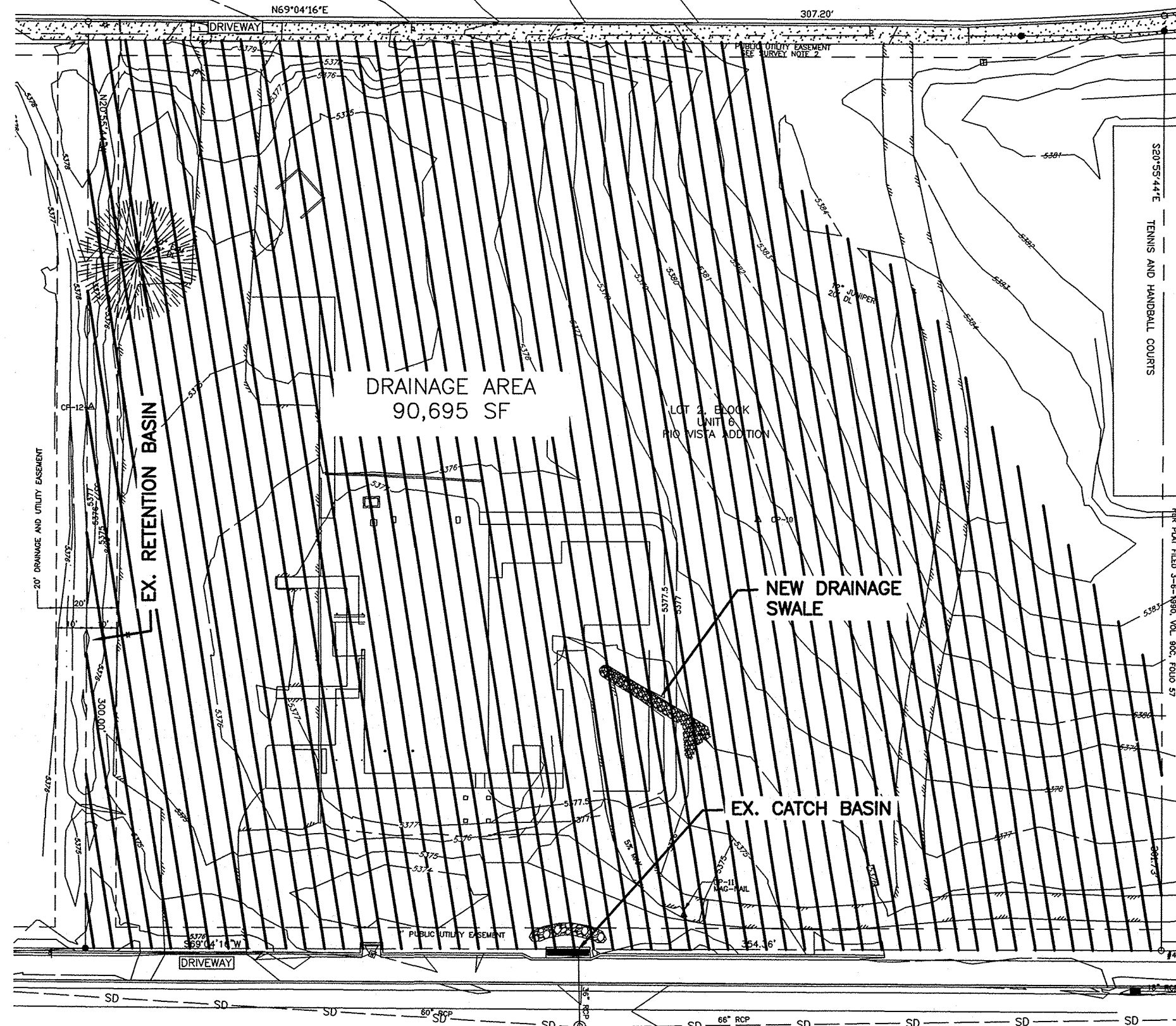
HYDRAULIC ANALYSIS FOR CAPACITY (Q) OF SITE DRAINAGE AMENITIES:

CHANNEL CAPACITY (Q) TO ROUTE FLOW FROM ROOF:
ROUGHNESS (n) = 0.035
FLOW AREA (A) = 2.00 sf
HYDRAULIC RADIUS (R) = 0.444
SLOPE (S) = .0052 ft/ft

$$Q = (1.49/n)(A)(R^{0.667})(S^{0.5}) = 3.5 \text{ cfs}$$

X. CONCLUSION

THIS PLAN SUPPORTS THE PROPOSED IMPROVEMENTS TO THE BERNALILLO COUNTY'S PARADISE HILL COMMUNITY CENTER ANNEX. THE PROPOSED STORM DRAINAGE FACILITIES WILL ADEQUATELY CONVEY STORMWATER GENERATED ON-SITE BY A 100 YEAR, 10 DAY STORM EVENT. ALL ON-SITE STORM DRAINAGE FACILITIES WILL BE OWNED, OPERATED AND MAINTAINED BY THE COUNTY. NO OFF-SITE FLOWS AFFECT THIS DEVELOPMENT.



DRAINAGE AREA POST-DEVELOPMENT

MAP SCALE: 1" = 40'

ENGINEER'S CERTIFICATION

ENGINEER CERTIFIES THAT THE SITE HAS BEEN PERSONALLY INSPECTED AND NO GRADING, FILLING, OR EXCAVATION HAS OCCURRED SINCE THE PREPARATION OF THE TOPOGRAPHY SHOWN ON THE PLAN.

OWNER'S CERTIFICATION

OWNER ACKNOWLEDGES THAT ACCESS TO THE SITE IS GAINED FROM A NON-COUNTY MAINTAINED ROAD.

OWNERS SIGNATURE

DATE

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HYDROLOGIC ANALYSIS				
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PROJECT NO.: 2011-0012	DRAWN: KW	CHECKED: JC	DATE: DEC. 2011	SHEET: C-100